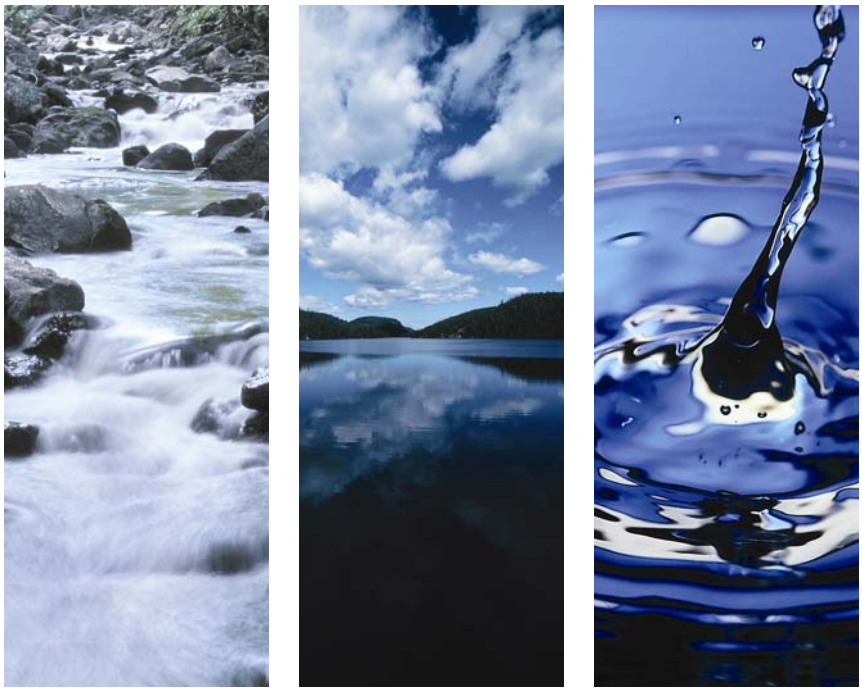

Flintshire County Council Local Flood Risk Management Strategy

Draft Habitats Regulation Assessment Screening Report

February 2013

Flintshire County Council

CYNGOR Sir y Fflint Flintshire COUNTY COUNCIL

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
001	27 November 2012	KM O'Connor H Ream	H Webb	EC Probert	First Draft
002	12 February 2013	Joanne Bates	EC Probert	Katie Burton	Draft following internal consultation

Content

Glossary of Acronyms

CCW	Countryside Council for Wales
CMP	Core Management Plan
cSAC	Candidate Special Area of Conservation
DEFRA	Department for Environment, Food and Rural Affairs
EAW	Environment Agency Wales
FCC	Flintshire County Council
FWMA	Flood and Water Management Act 2010
FRMA	Flood Risk Management Authority
HRA	Habitat Regulations Assessment
LFRMS	Local Flood Risk Management Strategy
pSPA	Proposed Special Protected Areas
SAB	SuDS Approval Body
SCI	Site of Community Importance
SEA	Strategic Environmental Assessment
SuDS	Sustainable Urban Drainage System
WG	Welsh Government
ZoI	Zone of Influence

Executive Summary

Flintshire County Council (FCC), as a Lead Local Flood Authority (LLFA), is required to prepare a Local Flood Risk Management Strategy (LFRMS) under Section 10 of the Flood and Water Management Act 2010 (FWMA).

The purpose of the strategy is to address potential flood risk arising from local sources within the boundaries of the Authority area. The aims of the strategy is to ensure that our communities are aware of what risks exist, to be aware of what the Council and other risk management partner's responsibilities are in terms of flood risk, and what communities can do to involve themselves.

A Habitats Regulations Assessment (HRA) is required under the EU Habitats Directive (92/43/EEC) for any proposed plan or project which may have a significant effect on one or more European sites, and which is not necessary for the management of those sites. The competent authority FCC has therefore assessed the potential effects of its LFRMS on European sites (namely Special Areas of Conservation, Special Protection Areas and Ramsar sites).

A screening process was undertaken to investigate which of the LFRMS objectives have the potential for a significant effect on European sites. The main potential adverse effects on protected sites are considered likely to arise from the following LFRMS objectives:

- Objective 1: To improve the understanding of local flood (surface water, groundwater and ordinary watercourses) and coastal risks, specifically measure 1.6 - Develop a county wide map based record of flood risk assets, Flood Investigation Reports, historical flooding and areas at risk of flooding to allow a proactive risk management approach to be taken by the flood authority;
- Objective 4: To reduce the impact and consequences for individuals, communities, businesses and the environment from flooding and coastal erosion, specifically measure 4.2 - Identify areas at greatest risk of flooding, and develop a capital cost investment programme to alleviate flooding; and
- Objective 6: Improve and/or maintain the capacity of existing drainage systems by targeted maintenance specifically measure 6.1 - Develop a risk based reactive and cyclical maintenance regime.

The Strategy is a high-level strategic plan whose objectives and measures are concentrated on strategically increased public awareness, preparedness and involvement regarding flood risk, rather than project-specific measures. As such,

the scope of work associated with its implementation is uncertain and will be developed at a later stage. Any specific schemes implemented as a result of LFRMS will be subject to the formal planning process in line with the Town and Country Planning Act (Environmental Impact Assessment) (England and Wales) Regulations 1999 and may require an Environmental Impact Assessment (EIA) or HRA. This will ensure that any potential scheme-specific effects are identified and avoided. Following the implementation of any scheme-specific avoidance measures, none of the sites are concluded to be significantly affected by the LFRMS and an Appropriate Assessment is not considered to be required.

Potential beneficial effects have been identified as a result of the LFRMS. Schemes derived from the LFRMS may enhance water quality, reduce the likelihood of contamination and mobilisation of pollutants, reduce the risk of diffuse pollution and provide opportunities to develop new habitats and enhance the biodiversity across FCC.

1. Introduction

1.1 Background

The increase in occurrence and severity of flooding in recent years, including that of summer 2007, sparked a government-commissioned investigation into the flooding, known as the Pitt Review. It summarised the failings of historic flood management, resulting in an extensive set of recommendations which were transposed into the Flood and Water Management Act 2010 (FWMA)[1]. The FWMA created a responsibility for County and Unitary Councils to act as Lead Local Flood Authorities (LLFA's) which meant they were required to take leadership for the coordination and management of local flood risk.

Flintshire County Council (FCC) has been designated as a LLFA in Wales, and is required under Section 10 of the FWMA to develop, maintain, apply and monitor a Local Flood Risk Management Strategy (LFRMS) in its area. The purpose of the LFRMS is to address potential flood risk arising from local sources within the boundaries of the Local Authority area. Local flood risk is defined as any flood risk from surface runoff, groundwater and ordinary watercourses. Flood risk arising from the sea, main rivers and reservoirs is outside of the scope of the strategy and is managed by the Environment Agency Wales (EAW).

As a requirement of the European Directive 2001/42/EC[2], the effect on the environment of the Strategy is required to be assessed through a Strategic Environmental Assessment (SEA). In addition to undertaking a SEA, a Habitat Regulation Assessment (HRA) is also required under the European Habitats Directive 92/43/EEC[3]. The Habitats Directive is brought into effect in Wales (and England) by the Conservation of Habitats and Species Regulations 2010 (as amended)[4].

A plan or project cannot be given effect or consented unless it can be determined that it would not have an adverse effect on the integrity of European Sites or, where there are no alternative solutions, there are Imperative Reasons of Overriding Public Interest and compensatory measures are secured to ensure the coherence of the European Site (Natura 2000) network. Any plan or project which has the potential to affect a European Site, no matter how far away from that site should be considered. The LFRMS is regarded to be such a plan as it could implement plans and policies that may have the potential to impact on European sites.

There are currently five European designated sites within or partially within the County of Flintshire. Due to the presence of the protected sites, this Stage 1 Habitat Regulation Assessment (HRA) is required and has been produced in order to assess the potential impacts that implementing the LFRMS may have on the identified sites.

In addition to the sites that are within the boundary of the county, implementing the Strategy has the potential to impact other designated sites that may exist outside the county. This is defined as the Zone of Influence (ZoI), and would also include protected sites that may be hydrologically linked to the designated sites within Flintshire County. This is further detailed in the Section 2.

[1] Her Majesty's (HM) Government (2010) Flood and Water Management Act

[2] Directive 2001/42/EC of the European Parliament and of the Council (June 2001) on the Assessment of the Effects of Certain Plans and Programmes on the Environment

[3] Directive 92/43/EEC of the European Parliament and of the Council (May1992) on the Conservation of Natural Habitats and Wild Fauna and Flora

[4] The Conservation of Habitats and Species (Amendment) Regulations 2012

1.2 Flintshire Local Flood Risk Management Strategy

Under the Flood and Water Management Act 2010, all Lead Local Flood Authorities (LLFA's) are required to develop, maintain (which includes updating and reviewing), apply, and monitor the application of a strategy for local flood risk management in their area. This strategy is known as a Local Flood Risk Management Strategy (LFRMS).

A 'local flood risk' is defined within the Act as being a flood risk from:

- Surface run-off;
- Groundwater; and
- Ordinary watercourses.

The reference to ordinary watercourses includes a reference to a reservoir, lake, pond or other areas of water which flows into an ordinary watercourse. An ordinary watercourse is defined (in the Water Resources Act 1991) as any watercourse, including lakes and ponds, that is not a main river.

Flintshire County Council is a LLFA, and as such has prepared a LFRMS[5]. The LFRMS is a high level strategy document that sets out management policies for flood risk management. The Strategy does not provide details on management for specific flood risk areas. Specific Area Management Action Plans (SAMAP's) may be produced in the future, and will cascade down from the Strategy.

The Welsh Government (WG) has produced a National Strategy for Flood and Coastal Erosion Risk Management in Wales[6]. This is the overarching document for all LFRMS in Wales. The LFRMS must be consistent with this document. The WG has also produced a guidance document for LLFA 'Local Flood Risk Management Strategies: Local Strategy' (November 2011)[7].

The WG guidance states that LFRMS should be developed in keeping with the four overarching objectives for flood and coastal erosion risk management in Wales as set out in the National Strategy. The four objectives are as follows:

- **Reducing the consequences** for individuals, communities, businesses and the environment from flooding and coastal erosion;
- **Raising awareness of and engaging people in the response** to flood and coastal erosion risk;
- **Providing an effective and sustained response** to flood and coastal erosion events; and
- **Prioritising investment** in the most at risk communities.

Section 10(4) of the Act, specifies what must be included within a LFRMS:

- The Risk Management Authorities in the Local Authority's area;
- The flood and coastal erosion risk management functions that may be exercised by those Authorities in relation to the area;
- The objectives for managing local flood risk (including, when available, any objectives included in an LLFA flood risk management plan prepared in accordance with the Flood Risk Regulations 2009;

[5] Flintshire County Council (November 2012) Local Flood Risk Management Strategy

[6] Welsh Government (November 2011) National Strategy for Flood and Coastal Erosion Risk Management in Wales

[7] Welsh Government (November 2011) Local Flood Risk Management Strategies – Local Strategy

- The measures proposed to achieve those objectives;
- How and when the measures are expected to be implemented;
- The costs and benefits of those measures, and how they are to be paid for;
- The assessment of local flood risk for the purpose of the strategy;
- How and when the strategy is to be reviewed; and
- How the strategy contributes to the achievement of wider environmental objectives.

1.3 Flintshire LFRMS Objectives and Strategic Options

The consultation version of the Strategy contains ten overarching objectives which follow the guiding principles for flood risk management in Flintshire.

The objectives identified in the Strategy are to be implemented through a series of measures that are set out in the following sections of the document. Further to these is a set of environmental objectives which aim to achieve wider environmental benefits as required by the Flood and Water Management Act.

The Strategy will be supplemented by annual action plans in order to give a more detailed overview of what FCC want to achieve that year and how it will be undertaken.

1.4 Legislative Background

Under the European Directive 92/43/EEC on the 'Conservation of Natural Habitats and Wild Fauna and Flora (also referred to as the 'Habitats Directive'), habitats and species of European importance are afforded legal protection. The Habitats Directive along with the Birds Directive (European Directive 79/409/EEC) are transposed into United Kingdom (UK) law as 'The Conservation (Natural Habitats) Regulations 1994'. This legislation provides a legal framework for the protection of habitats and species of European importance across the UK.

In accordance with the Habitats Directive, member states must adopt measures that maintain and restore European protected habitats and species (as listed in Annex I and II respectively) to a 'favourable conservation status' (as defined in articles 1 and 2). Member states are also required to contribute to a coherent European ecological network (referred to as the 'Natura 2000 Network') by designating Special Areas of Conservation (SACs) based on these European protected habitats and species. The Natura 2000 Network also includes Special Protection Areas (SPAs), which are classified under Article 4 of the Birds Directive. SPAs are designated based on their significant international importance as sites that host rare and vulnerable birds (as listed in Annex I of the Birds Directive). Other Natura 2000 sites include: candidate SAC (cSAC), proposed SPA (pSPA), European Offshore Marine Sites (EOMS) and Sites of Community Importance (SCIs) which have been adopted by the European Commission, but have not yet been formally designated by the government of the Member State.

In the UK, Ramsar sites (as protected under the Ramsar Convention 1971) are afforded the same level of protection as fully designated Natura 2000 sites. These sites, which are considered to be 'wetlands of international importance', are designated based on criteria set out in the Ramsar Convention. Generally, they are sites that either: 'contain representative rare or unique wetland types' or 'are sites of international importance for conserving biological diversity'.

In accordance with Article 6(3) of the Habitats Directive, an 'Article 6 Assessment' (also referred to as 'Appropriate Assessment' or 'Habitats Regulations Assessment' (HRA)) must be completed for any plan or

project that may result in a significant impact on a Natura 2000[8] site, that is not directly connected with, or necessary to, the management of that site. As Ramsar sites are afforded the same level of protection as Natura 2000 sites, they may also be subject to a HRA if the plan or project is likely to result in a significant impact on the Ramsar site (Department for Environment, Food and Rural Affairs (Defra) 2006)[9]. The main purpose of a HRA is to identify whether or not the integrity of a designated site will be adversely impacted by the proposed plan or project and if it is, the generation of potential mitigation measures to offset these impacts.

The protected sites described above (i.e. Natura 2000 and Ramsar sites) will be collectively referred to as 'European Sites' in this report.

1.5 Habitats Regulations Assessment (HRA) Process

There are four key stages in the HRA process as illustrated in Figure 1.1 overleaf. These stages are as follows:

Stage One - Screening: this is the process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;

Stage Two - Appropriate Assessment: if the project or plan may have significant impacts on a European Site, or there is uncertainty, this Stage involves the consideration of the impact of the project or plan, either alone or in combination with other projects or plans, on the integrity of the European Site with respect to the site's structure and function and conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

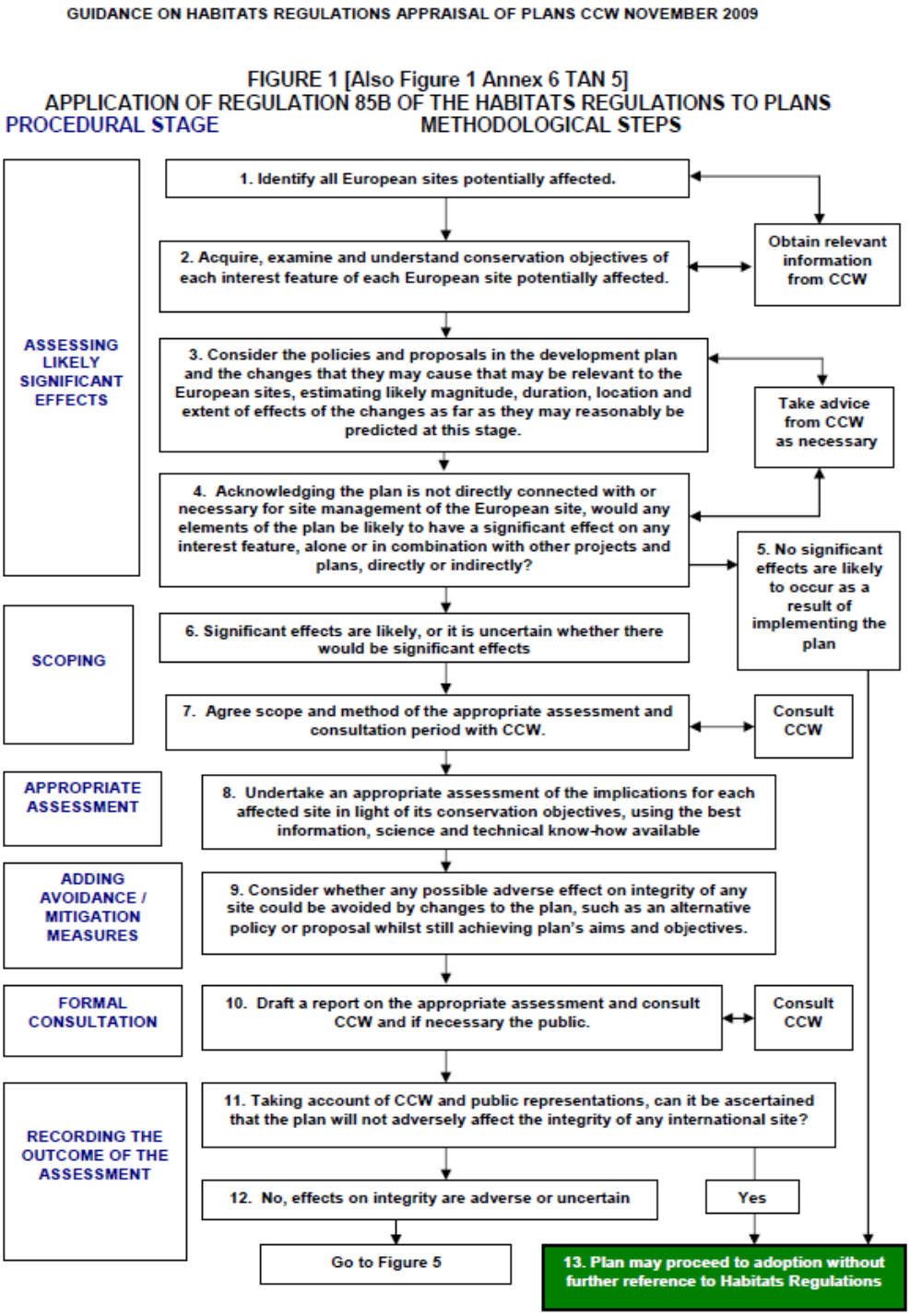
Stage Three - Assessment of Alternative Solutions: If the mitigation measures prescribed at Stage 2 cannot avoid a significant impact on the European Site this process examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage Four - Assessment where no alternative solutions exist and where adverse impacts remain: If no suitable alternative solutions are available this Stage requires an assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

[8] European Commission (200) Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC

[9] Department for Environment, Food and Rural Affairs (November 2006). Ramsar Sites in England – A Policy Statement

Figure 1.1: Stages of the Habitats Regulations Assessment (HRA) Process for Plans



Source: Guidance for plan making authorities in Wales – The appraisal of plans under the Habitats Directive, CCW 2009

This report includes the information required to facilitate the Stage 1: Screening. Through this process the likelihood of significant effects as a result of the Strategy are assessed. If it is identified that the impacts of implementing the Strategy may cause significant impacts then this triggers the further stages of the assessment - Stage 2: Appropriate Assessment.

The first stage consists of the following key steps as detailed below and this is shown diagrammatically in Figure 1.2 below:

1. Identifying the European Sites that may be potentially affected;
2. Understanding the Conservation Objectives of the identified sites;
3. Considering the policies in the plan (or in this case the Strategy) and the magnitude of the effect that they may have on a European Site (as far as they maybe reasonably predicted);
4. Determining whether the project or plan is directly connected with or necessary to the management of the site/s; and
5. Assessing the significance of any effects on the Natura 2000 site/s.

The appraisal of a plan under the Habitats Regulations is a process that should be undertaken during the preparation of the plan, so that the appraisal influences its evolution.

In Wales guidance on how plans and projects should be assessed to satisfy the HRA process is provided for in several key publications as listed below

- Guidance For Plan Making Authorities In Wales - The Appraisal Of Plans Under The Habitats Directive[10]; and
- Guidance Note Methodological Approaches To The Habitats Regulations Assessment Of Plans And Projects Requiring Multiple Consents[11].

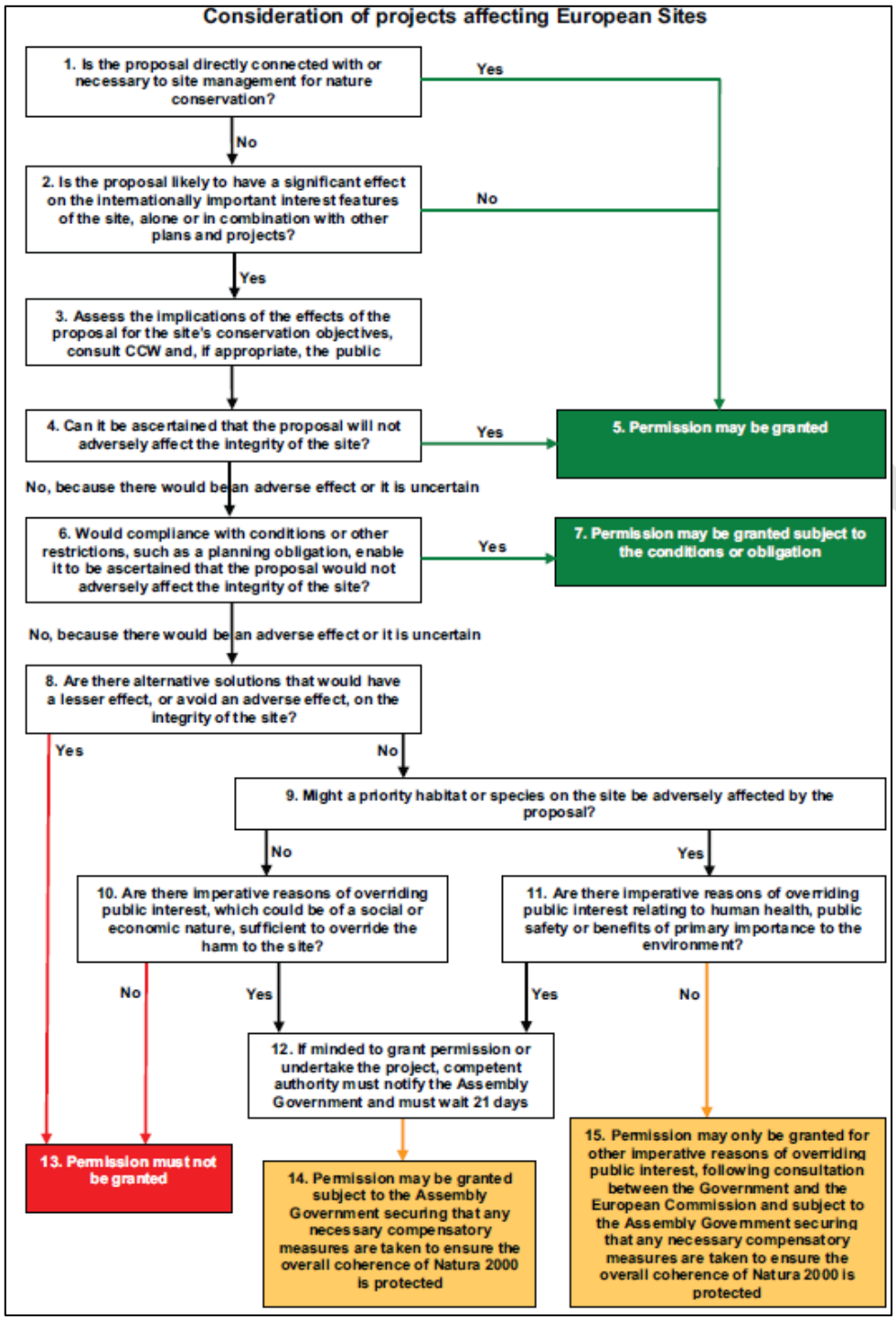
These documents, along with guidance on the significance of impacts provided for in the Design Manual for Roads and Bridges (DMRB)[12] along with professional judgement, have been used to determine if the proposed LFRMS could “undermine an European Site’s Conservation Objectives” and thereby result in a significant impact to such a site.

[10] Tyldesley, D., 2009, Draft Guidance For Plan Making Authorities In Wales: The Appraisal Of Plans Under The Habitats Directive for Countryside Council for Wales CCW Bangor

[11] Tyldesley, D., 2011, Guidance Note Methodological Approaches To The Habitats Regulations Assessment Of Plans And Projects Requiring Multiple Consents for Countryside Council for Wales CCW Bangor

[12] The Design Manual for Roads and Bridges, Volume 11, Section 4, Part 1, HD 44/09: Assessment of Implications (of highways and/or roads projects) on European Sites (including appropriate assessment) (Highways Agency, February 2009).

Figure 1.2 Consideration of projects affecting European Sites



Source: Guidance for plan making authorities in Wales – The appraisal of plans under the Habitats Directive, CCW 2009

2. Assessing Likely Significant Effects

2.1 Identification of European (Natura) Sites

This step involves the identification of relevant European Sites within the County boundary and within the likely zone of influence (ZoI) of the Strategy (up to 15 km from the boundary of the county) and information regarding their status.

Relevant sites are those that are defined as having primary reasons and/or qualifying features that are hydrological in nature or associated with hydrology and thus could potentially be affected by the implementation of the Strategy. Conversely sites that are not related to hydrology, and thus are unlikely to be affected by the measures have been screened out.

The European Sites within the County boundary and within the ZoI are described in Appendix A and Appendix B respectively. In addition the information contained in these appendices also details their respective primary reasons for designation, and qualifying features.

Based on information obtained from third party sources there are a potential 12 European Sites located within the ZoI. Appendix C provides a plan showing the locations of these European Sites in relation to the county. The following European Sites are located within the ZoI, and their classifications are provided in brackets:

- Halkyn Mountain (SAC);
- Alyn Valley Woods (SAC);
- Deeside and Buckley Newt Sites (SAC);
- Dee Estuary (SAC, SPA and Ramsar);
- River Dee and Bala Lake (SAC);
- Berwyn and South Clwyd Mountains (SAC);
- Berwyn (SPA);
- Liverpool Bay (SPA);
- Midland Meres and Mosses Phase 2 (Ramsar);
- Elwy Valley Woods (SAC);
- Johnston Newt Sites (SAC); and
- Llwyn (SAC).

2.2 Vulnerabilities of the European Sites

In order to understand and therefore asses how the Strategy could impact the Natura 2000 sites it is important to know the sites historical vulnerabilities. These may include;

1. Degradation from past drainage and maintenance of water levels;
2. Abandonment of traditional grazing and reed and peat-cutting practices contributing to successional vegetation change;
3. Pollution of water supplies especially from agricultural run-off of nitrate and phosphate threatens site with eutrophication or airborne nitrate inputs;
4. Activities that prevent maintenance of water quality level and hydrological integrity of sites remaining intact; and
5. Spread of invasive or non favourable species.

Thus key activities which should be considered are those that result in a change to volume of flow, pollutant loading and speed of flow.

2.3 Consideration of the Policies and Proposals

To ensure that the plans or polices that are to be implemented are correctly assessed, each of the objectives (and measures to implement those objectives) have been reviewed and assessed to identify the impacts on the European Sites identified in the initial stages. Each objective has been considered on a variety of topics, which include the changes that they may cause to the European Sites and are as follows:

- Estimating likely magnitude;
- The duration;
- The location; and
- Extent of effects of the changes as far as they may reasonably be predicted at this stage.

The objectives are listed in the following Tables below along with the measures required to implement these objectives and the potential effect that these measures may cause that maybe relevant to the European Site.

Table 2.1: Potential effects that may arise from measures to implement objectives of the Strategy.

Objective 1: To improve the understanding of local flood (surface water, groundwater and ordinary watercourses) and coastal risks	
Measures	**Potential Effects**
1.1 Record all flooding incidents and where appropriate carry out flooding investigations; **1.2** Record all appropriate structures/assets on watercourses so that ownership and responsibility can be identified in the event of a problem with flooding; **1.3** Develop a consistent approach to designation of flooding/drainage structures; **1.4** Identify and assess the condition of existing drainage assets within the County, to prioritise capital investment; **1.5** Develop a county wide map based record of flood risk assets, Flood Investigation Reports, historical flooding and areas at risk of flooding to allow a proactive risk management approach to be taken by the flood authority; and **1.6** Digitise all relevant paper reports and information to protect historical knowledge and make it accessible for future flood investigations.	For the purposes of this screening most of these measures have been scoped out with the exception of measure 1.6 as this is considered to be largely a desk and investigational based objective that will enable an improved understanding of the Counties flood risk to be developed and planned rather than the implementation of intrusive activities likely to adversely affect Natura 2000 sites. Changes to asset ownership and responsibility could cause both positive and negative effects as they may result in a change to how that particular asset is managed and as such should be considered on an asset by asset basis when this arises.
Objective 2: Increasing individual and community awareness and preparedness for flood and coastal erosion events and the impacts of climate change on flood risk	
Measure	**Potential Effects**
2.1 Raise public awareness of the impacts of climate change on flooding and (failure of) coastal defences; **2.2** Publish a public awareness strategy (Workshops, public awareness events, update and improve the Council Website, adverts in local press) and communicate it; **2.3** Develop a capacity to deal effectively and appropriately with non-emergency flood incidents **2.4** To collaborate with statutory bodies to promote the existing flood warning service (EAW) and	For the purposes of this screening these options have been scoped out as this is considered to be largely a desk and investigational based objective that focuses on flooding and community awareness. As such, it will enable an improved understanding of the Counties flood risk to be developed rather than the implementation of intrusive activities likely to adversely affect Natura 2000 sites.

their proposed flooding campaigns; **2.5** Collaborate with other FRA's to create an integrated county wide real time hydraulic and flood alert map (long term); **2.6** Make the public aware of available flood prevention and mitigation measures (resistance and resilience) to protect their property and assets; and **2.7** Target areas of historical flooding (or at high probability of flooding) to increase awareness of emergency procedures in the event of a flood.	
Objective 3: To collaborate with FRMA's, stakeholders and the public to reduce flood and coastal risks, and share data and resources to the greatest benefit	
Measure	**Potential Effects**
3.1 Identify responsibilities of the riparian owners of managing their assets, through public engagement; **3.2** Continue to meet with the North Wales LFRMA's and Coordination Group to share knowledge, data and lessons learnt; **3.3** Develop an effective communication plan to ensure collaborative working and data sharing; and **3.4** Undertake stakeholder engagement, to identify responsibilities of flood risk partners.	For the purposes of this screening these options have been scoped out as this is considered to be this is largely a desk and investigational based objective that will enable an improved understanding of the Counties flood risk to be developed rather than the implementation of intrusive activities likely to adversely affect Natura 2000 sites.
Objective 4: To reduce the impact and consequences for individuals, communities, businesses and the environment from flooding and coastal erosion	
Measure	**Potential Effects**
4.1 Identify vulnerable groups within the community, and prepare action plans in the event of flooding; **4.2** Identify areas at greatest risk of flooding, and develop a capital cost investment programme to alleviate flooding; **4.3** Educate general public on options for protecting their properties through flood prevention options and resistance and	For the purposes of this screening these options have been scoped out (excluding 4.2) as this is considered to be largely a desk and investigational based objective that focuses on identifying areas of flooding and community awareness. Where funds are targeted and how they are targeted could cause changes in how flood attenuation and control schemes are employed and as such both positive and

resilience measures; and **4.4** Assist and provide support following a flood event.	negative impacts to the Natura 2000 sites could result, these should be screened on a project by project basis when they arise.
Objective 5: To ensure that planning decisions are properly informed by flooding issues and the impact future planning may have on flood risk management and long term developments	
Measure	**Potential Effects**
5.1 Develop clear guidance for the Planning Department when assessing planning applications; **5.2** Develop a process with the Planning Department to create clear advise and direction to developers on FRMS and drainage (including incorporation of SuDS into new developments); **5.3** Establish a SuDS Approval Body (SAB); **5.4** Keep the Planning Department informed and up-to-date with flood areas in the County; and **5.5** Develop policies for effective land use management and enhance development control procedures where appropriate.	For the purposes of this screening these options have been scoped out as they are considered to be production of guidance and advice that will enable an improved management of the Counties flood risk to be developed in relation to planning rather than the implementation of intrusive activities likely to adversely affect Natura 2000 sites. Guidance could cause the selection or avoidance of the implementation of techniques or methods that may cause adverse impacts to Natura 2000 sites. Likewise they could also promote the implementation of beneficial techniques. However, due to the thorough procedures in place within Flintshire County Council where all consents for work are passed to the Environment Agency and Biodiversity units for comment, it is thought that there will not be a significant effect on European sites and as such can be scoped out.
Objective 6: Improve and/or maintain the capacity of existing drainage systems by targeted maintenance	
Measure	**Potential Effects**

6.1 Identify and assess the condition of existing drainage assets within the County, to prioritise capital investment; **6.2** Develop a risk based reactive and cyclical maintenance regime; and **6.3** Develop a risk based programme for improving existing infrastructure.	For the purposes of this screening these options have been scoped out (excluding 6.2) as it is considered to be an identification and assessment process of the existing condition of the counties drainage assets to inform investment, this is considered to inform improvement programmes to be developed rather than the implementation of intrusive activities likely to adversely affect Natura 2000 sites. Once prioritisation is known then the thorough procedures in place within FCC when reviewing improvement projects, will be assessed for intrusive activities likely to adversely affect Natura 2000 sites on a project by project basis.

Objective 7: Take a sustainable approach to flood risk management balancing economic, environmental and social benefits

Measure	**Potential Effects**
7.1 Ensure the environmental consequences of implementing the LFRMS are considered against the technical, economic and social benefits; **7.2** Consider the principles of the Flintshire Sustainability Strategy in FCERM; and **7.3** Consider the use of attenuation through wetlands to increase the length of flow durations, store flood water, and provide amenity and ecological benefits.	Any changes in the policies for flood risk management procedures and programmes, may impact on a feature, conservation objective or vulnerability associated with a European sites. However, consideration of environmental consequences are likely to reduce negative impacts arising from the implementation of LFRMS. Once changes are known then the thorough procedures in place within FCC when reviewing projects, will highlight the possibility for intrusive activities likely to adversely affect Natura 2000 sites on a project by project basis.

Objective 8: Increase approaches that utilise the natural environment

Measure	**Potential Effects**
8.1 Adopt natural flood-risk management techniques including SuDS; **8.2** Explore new and innovative technologies for flood defence and flood management ; **8.3** Where possible incorporate multiple	Changes in drainage, engineering, or flood defence and management technologies, may impact both negatively or positively on a feature, conservation objective or vulnerability associated

benefits such as water quality, biodiversity and amenity benefits; and **8.4** Develop and implement a culverting policy.	with a European sites. Once any proposed changes are known then the thorough procedures in place within FCC when reviewing plans and projects, will highlight the possibility for intrusive activities likely to adversely affect Natura 2000 sites on a project by project basis.
Objective 9: Ensure the development of skills required to implement effective and innovative flood risk management measures	
Measure	**Potential Effects**
9.1 Provide appropriate staffing levels and develop staff expertise to deliver the requirements of the act; **9.2** Invest in appropriate software and hardware; **9.3** Outsource specialist skills to deliver specific projects, and **9.4** Collaborate and provide support, training and network of staff across the region.	This objective is unlikely to impact any feature, conservation objective or vulnerability associated with screened-in European sites as they relate to the development of staff skills.
Objective 10: Identify projects and programmes which are affordable, maximising capital funding from internal and external sources	
Measure	**Potential Effects**
10.1 Identify potential funding sources which may include communities and local business's; **10.2** Undertake full lifecycle cost benefit analysis for projects including social, and environmental benefits; and **10.3** Investigate opportunities for match funding and grants.	This objective is unlikely to impact any feature, conservation objective or vulnerability associated with screened-in European sites as they relate to the obtaining of funds to finance projects, as such it is anticipated that the improvements would be screened on a project by project basis.

These potential effects may either be direct or indirect, temporary or permanent, positive or negative.

Objectives that are considered unlikely to impact on a Natura 2000 site are generally intangible in nature and involve measures such as increasing the awareness of flood risk, developing greater community ownership and partnership involvement across FCC.

The implementation of the Strategy may result in an improvement in water quality and resources across the County. It may also reduce the likelihood of contaminated land and sewerage networks being flooded in FCC and the subsequent mobilisation of pollutants, fertilisers and pesticides and their discharge into nearby watercourses and water bodies. The adoption of SuDS (as outlined in the Strategy) will promote the sustainable use of water in FCC and will contribute to the reduction in diffuse pollution from urban runoff and the overall enhancement of water quality in FCC. The implementation of the LFRMS may also provide potential opportunities to develop new habitats and enhance biodiversity across FCC, through development of wetlands.

In contrast, the implementation of the LFRMS may involve measures (i.e. hard engineering solutions) that have the potential to adversely affect (or improve) the physical nature of watercourses and water bodies in FCC and subsequently their water quality. This in turn may impact (positively or negatively) their ecology. Other measures may alter the hydrological regime of an ecosystem and subsequently may have negative repercussions for species dependent on these ecosystems. It is important to note that any flood alleviation scheme will have to be correctly assessed through the due planning process and would be subject to appropriate assessment to ensure that any negative impacts (on all topics) are identified and suitable mitigation schemes implemented to counter balance any potential negative impacts.

Potential cumulative effects may arise from the implementation of the Strategy, in combination with the effects of other schemes, policies, plans and programmes. For example, The Environment Agency Wales Strategy may result in a potential positive cumulative effect by reducing pressures from abstraction on the main rivers. Whereas, major development projects in proximity to watercourses may result in a negative cumulative effect.

Measures required to implement the objectives that are thought to have a potential effect on a European Site are highlighted in the Table 2.1 above and are identified in the table below.

These Measures are highlighted in the table below and we be used to inform the screening decisions in Appendix A and B. This is further discussed in Section 3.

Table 2.2 Objectives that may cause an adverse negative effect to a European Site

Objectives that have measures that cannot be scoped out and will be considered during the screening in Appendix A and B	**Measure**
Objective 1: To improve the understanding of local flood (surface water, groundwater and ordinary watercourses) and coastal risks.	**1.6** Develop a county wide map based record of flood risk assets, Flood Investigation Reports, historical flooding and areas at risk of flooding to allow a proactive risk management approach to be taken by the flood authority.
Objective 4: To reduce the impact and consequences for individuals, communities, businesses and the environment from flooding and coastal erosion.	**4.2** Identify areas at greatest risk of flooding, and develop a capital cost investment programme to alleviate flooding.
Objective 6: Improve and/or maintain the capacity of existing drainage systems by targeted maintenance.	**6.4** Develop a risk based reactive and cyclical maintenance regime.

2.4 Direct or Indirect Impacts on European Sites

As part of the process to assess the impacts of the Strategy it is required to acknowledge that the Strategy is not directly connected with or necessary to the management of any European Site. In addition, it is necessary to identify any elements of the plan that may be likely to have a significant effect on any interest feature alone or in combination with any other projects or plans both directly or indirectly.

The full assessment on the known cumulative effects of plans and programmes has been conducted as part of the Strategic Environmental Assessment that has been undertaken in parallel with both the Strategy and the preparation of this document. It is always difficult to identify cumulative impacts as the assessment is conducted using the available information, and as such is unable to include schemes that are in the conception or preconception stage as these may not be in the public domain.

Considering the above, incombination effects are difficult to assess but will be produced by various current or proposed projects within FCC boundaries both on small and large scales. However, it is considered impractical to consider small scale projects in this screening process as the impacts of these are very difficult to quantify, although it is acknowledged that numerous small projects may have a combined impact, it is impossible to measure the impact with any confidence or accuracy.

Large scale projects will be subject to individual Environmental Impact Assessment (EIA) and a HRA through the due planning process and as such any adverse environmental impacts on the European Sites should be identified through the planning process and cumulative effects identified.

Considering that the Strategy is mainly concerned with the protection of the public and assets and has limited targets concerning physical measures it is unlikely that it would produce an adverse effect on European sites within the limits of FCC boundaries. As such it would be unfeasible to predict in-combination effects with any degree of certainty without further specific information in regards to engineering solutions as a result of this screening process.

2.5 Likelihood of Significant Effects

Having identified the likely effects resulting from the strategy objectives, the next stage of the assessment is to determine whether those objectives and measures are likely to significantly affect a Natura 2000 Site, either alone or in combination with other plans and projects. For each of the European Sites this is achieved by considering the strategy objectives and measures that have not been scoped out in Section 2.3 against the following criteria:

- Reason for the European Site designations;
- Key environmental conditions that support site integrity;
- Environmental vulnerabilities;
- Catchment (s) (EA 2010);
- Initial screening results (without measures);
- Measures; and
- Final screening results (including measures).

The tables in Appendices A and B document the results of this screening for European sites located within FCC boundary and European sites that are hydrologically connected to the FCC boundary and within 15 km respectively.

2.5.1 Objectives that may have the potential to have significant effects or it is uncertain whether there would be significant effects

Whilst most of the objectives are considered unlikely to have a significant effect on a Natura 2000 site, some of the objectives and measures proposed by the Strategy may result in the implementation of an action or a project that could potentially have an adverse impact on a Natura 2000 site.

As the Strategy is a high-level strategic plan, there is insufficient or no detail on proposed schemes and projects. As such an assessment of impacts or effects are dependent on factors that are yet to be determined (future flood events, funding ect). This document therefore concludes that the Strategy and its objectives are unlikely to result in a significant impact to a Natura 2000 sites. However, there is a potential that schemes may be implemented in the future and that further consideration may be require for specific projects once they are realised. Provided these projects or measures are appropriately screened in accordance with the HRA regulations prior to implementation, it is anticipated that adverse impacts to the Natura 2000 sites can be appropriately identified, avoided or if applicable mitigated in accordance with the spirit of the European Directive.

2.6 Consultation

The Countryside Council for Wales (CCW) and the Environment Agency Wales (EAW) will be consulted with respect to this assessment and any resulting comments or recommendations illustrated here once received.

3. Conclusions and Recommendations

A review of the available data has identified a total of 12 European Designated Sites (Natura 2000 sites), that are linked or may be impacted by the implementation of the Flintshire Local Flood Risk Management Strategy.

The Strategy is a high level document aimed at implementing the requirements of the Flood and Water Management Act 2010, whereby the FWMA created a responsibility for County and Unitary Councils to act as Lead Local Flood Authorities (LLFA's). As such the LLFA are required to take leadership for the coordination and management of local flood risk. The Strategy document identifies 10 objectives (and subsequent measures to implement those objectives) that the LLFA intends to implement to fulfil their legal requirements under the Act.

This document has reviewed each of the objectives, and considered the likely impacts that they may have on the identified Natura 2000 sites, both located within the County and within the likely ZoI (with 15 km of the county boundary, and hydrologically linked).

The assessment concluded that the implementation of the Strategy is unlikely to have a significant effect on any of the Natura 2000 sites which were identified as being linked to the implementation of the plans.

While some of the objecitves proposed by the Strategy may result in the implementation of a measure that could potentially have an adverse impact on a Natura 2000 site, these were not considered to be significant and did not require further assessment.

As the Strategy is a high-level plan, project specific detail is not available, and therefore assessment of effect, is dependent on factors such as available funding at the time of implementation. This document therefore concludes that the Strategy and its objectives either alone or in combination with other plans or projects are unlikely to result in a significant impact to a Natura 2000 sites. However, the Strategy does potentially advocate the implementation of projects that will need to be considered further at the implementation or project stage when further project specific detail is available.

As such it is recommended that projects, measures or resulting maintenance regimes are assessed in accordance with published guidance issued by CCW (http://www.ccgc.gov.uk/landscape--wildlife/managing-land-and-sea/environmental-assessment/habitats-regulations-assessmen.aspx) and the reporting mechanism that is used for transport schemes within the DMRB HD 44/09 (as referenced in Volume 11, Section 4) is useful as the system can be used to assess projects across disciplines to produce a thorough HRA.

Appendices

Appendix A. Screening Assessment of European Sites Located Within FCC

A.1. Objectives and measures to be considered during the screening assessment

Objectives that have measure that have not been scoped out and will be considered in the screening in appendix A and B	Measure
Objective 1: To improve the understanding of local flood (surface water, groundwater and ordinary watercourses) and coastal risks.	**1.6** Develop a county wide map based record of flood risk assets, Flood Investigation Reports, historical flooding and areas at risk of flooding to allow a proactive risk management approach to be taken by the flood authority;
Objective 4: To reduce the impact and consequences for individuals, communities, businesses and the environment from flooding and coastal erosion	**4.3** Identify areas at greatest risk of flooding, and develop a capital cost investment programme to alleviate flooding;
Objective 6: Improve and/or maintain the capacity of existing drainage systems by targeted maintenance	**6.5** Develop a risk based reactive and cyclical maintenance regime;

A.1. Screening assessment

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
Halkyn Mountain – SAC – 15 km						
Primary Reasons for Designation *Annex I Habitats* ▪ Extensive metaliferous (i.e. contains metal) vegetation type found here, which is associated with old lead and zinc ore mines. *Annex II Species* ▪ Great Crested Newts (*Triturus cristatus*). **Other Qualifying Features** *Annex I Habitats* ▪ European dry heaths; ▪ Semi-natural dry grasslands and scrubland facies: on calcareous substrates (i.e. grasslands found on thin, well-drained, lime-rich soils associated with chalk and limestone); and ▪ *Molinia* meadows that are some of the most species rich *Molinia* grasslands in the UK – include purple moor grass and a wide range of other associated species.	▪ Maintain and increase extent of habitats: grassland, dry heath, scrubland and *Molinia* meadows; ▪ Ensure the plant species present in grassland, heath communities and scrubland habitats are those outlined in the Core Management Plan (CMP); ▪ Maintain structure of grasslands, heath and scrubland communities as outlined in CMP; Ensure hydrological conditions are maintained to sustain the *Molinia* meadows (especially in terms of water quantity and quality); ▪ Manage grazing levels at grasslands; ▪ Ensure there are no non-native invasive species are present; ▪ With regard to great crested newts: - Site should support at least 200 adults in and around ponds within the site; - Manage terrestrial and aquatic habitats to ensure suitable breeding ponds and foraging, sheltering, dispersal and over-wintering areas for great crested newts. Retain and	▪ Has been subject to extensive mining; ▪ Decrease in low intensity grazing has resulted in an increase in extent of bracken and scrub; ▪ Subject to inappropriate agricultural practises e.g. overgrazing, livestock feeding and watering, burning and cutting.	River Dee Catchment: *Flint sub-area*	1 of the primary reasons is associated with hydrology. As such this site may be impacted by the implementation of the LFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's.	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
	restore existing ponds; - Ensure conditions of at least 50% of the ponds are suitable for great crested newts as outlined in CMP; - Ensure no barriers to newt dispersal and refuge potential within 50 m of breeding ponds is maintained; and - Ensure amphibian chytridiomycosis is not present.					
Alyn Valley Woods – SAC						
Primary Reasons for Designation *Annex I Habitats* ▪ Woodland with a varied canopy of Ash, small-leaved lime and wild service-tree (*sorbus torminalis*) and outstanding lower plant flora; **Other Qualifying Features** *Annex I Habitats* ▪ Semi-natural dry grasslands and scrubland facies: on calcareous substrates (i.e. grasslands found on thin, well-drained, lime-rich soils associated with chalk and limestone); and ▪ Woods dominated by alder and willow on flood plains.	▪ Maintain (by natural processes) and increase extent of woodland and grassland habitats; ▪ Ensure plant species present in woodland are mainly native broadleaved species, as outlined in CMP; ▪ Ensure plant species present in grassland are a rich mix of herbs and grasslands, as outlined in CMP; ▪ Maintain structure of woodland, as outlined in CMP; and ▪ Ensure no exotic species present (such as rhododendron, cheery laurel, snowberry and cotoneaster).	▪ Subject to recreational pressure; and ▪ Area previously worked for minerals and limestone.	River Dee CFMP area: *Mold sub-area*	1 of the qualifying features is associated with hydrology. As such this site may be impacted by the implementation of the LFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
					HRA's.	
Deeside and Buckley Newt Sites - SAC						
Primary Reasons for Designation *Annex II Species* ▪ Great crested newt (*Triturus cristatus*). **Other Qualifying Features** *Annex I Habitats* ▪ Old sessile oak woods with holly and blechnum fern species in the British Isles.	▪ With regard to great crested newts: - Site should support at least 600 adults in and around ponds within the site; - Manage terrestrial and aquatic habitats to ensure suitable breeding ponds and foraging, sheltering, dispersal and over-wintering areas for great crested newts. Retain and restore existing ponds; - Ensure conditions of the ponds are suitable for great crested newts as outlined in CMP; and - Ensure amphibian chytridiomycosis is not present.	▪ Terrestrial and aquatic habitats of GCNs are vulnerable to destruction and inappropriate management; ▪ Some of the site is subject to mineral extraction and as a result land restoration; ▪ Woodland habitat is subject to recreational pressures.	River Dee CFMP: *Deeside, Wirral, Flintshire sub-area*	Primary reason is associated with hydrology. As such this site may be impacted by the implementation of the LFRMS.	Consultation and consent for CCW/FC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's.	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.
Dee Estuary – SAC, SPA and Ramsar – 10 km						
Primary Reasons for Designation *Annex I Habitats* ▪ Mudflats and sandflats not covered by seawater at low tide; ▪ Salicornia and other annuals colonising mud and sand; and	▪ There must be no decrease in extent of estuarine habitat; ▪ Intra and inter-estuarine Tidal Prism/Cross Section ratio should not deviate significantly from an established baseline; ▪ Average temperature and salinity should not deviate	▪ Distinctive flora would be sensitive to grazing; ▪ Impact of adjacent historic use including waste disposal from former	River Dee CFMP: *Flint sub-area*	8 of the primary reasons and qualifying features are hydrological in nature, while 5 are associated with hydrology.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their**

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
▪ Atlantic salt meadows, which are regularly inundated by the sea and contains characteristic salt-tolerant perennial flowering plant species. **Other Qualifying Features** *Annex I Habitats* ▪ Estuaries; ▪ Annual vegetation of drift lines; ▪ Vegetated sea cliffs of the Atlantic and Baltic coasts; ▪ Embryonic shifting dunes; ▪ Shifting dunes along the shoreline with European Marram Grass (*Ammophila arenaria*); ▪ Fixed dunes with herbaceous vegetation ('grey dunes'); and ▪ Humid dune slacks. *Annex II Species* ▪ Sea lamprey; ▪ River lamprey; and ▪ Petalwort (*Petalophyllum ralfsii*). **Reasons for SPA designation** Site is of European importance for Annex I bird species listed on Birds Directive: - During breeding season – Common tern (*Sterna hirundo*) and little tern (*Sterna albifrons*); - On passage – Sandwich tern (*Sterna sandvicensis*) and redshank (*Tringa*	significantly from an established baseline; ▪ Ensure there is no significant reduction in numbers or displacement of birds attributable to disturbance ▪ Presence and abundance of small fish should be maintained in order to support bar-tailed godwit, common tern, little tern and Sandwich tern; ▪ Ensure the existing distribution of suitable roosting habitat is maintained; ▪ Ensure there is no decrease in extent of salt marsh; ▪ Ensure there is no decrease in extent of standing water pools; ▪ During winter, cover of both seed bearing plants and soft leaved herbs and grasses should each be maintained at least 25%; ▪ Ensure there is no decrease in extent of rocky shore at Hilbre Island, Middle Eye, Little Eye and Tanskey Rocks; ▪ Ensure there is no increase in the frequency of disturbance incidents; ▪ Ensure there is no increase in tern mortality associated with traffic or power cables; ▪ Ensure the zonation of clean sands to muddy sands to mud from the mouth of the estuary to the upper estuary is maintained; ▪ Ensure that the location of the saltmarsh / mudflat boundary does not deviate significantly;	manufacturing industry such as chemical and steel manufacture; ▪ Dock development and navigational dredging, coastal defence works and their impact on coastal process, regulation of fisheries and recreational use of intertidal, sand dunes and salt marshes.		The habitats and food sources of these Annex I bird species are associated with or dependent on hydrology. The features of this site that relate to Criterion 1, 2, 5 and 6 are either hydrological in nature or associated with hydrology. As such this site may be impacted by the implementation of the LFRMS..	statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC/SPA/Ramsar. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's. This may result in restriction on the timings of the works to account for the bird population.	**management.** Potential beneficial effects have been identified.

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
totanus); - Overwinter – Bar-tailed Godwit (*Limosa lapponica*); Black-tailed Godwit (*Limosa limosa*); Curlew (*Numenius arquata*); Dunlin (*Calidris alpina*); Grey Plover (*Pluvialis squatarola*); Knot (*Calidris canuta*); Oystercatcher; Pintail (*Anas acuta*); Redshank; Shelduck (*Tadorna tadorna*); and Teal (*Anas crecca*). **Reasons for Ramsar designation:** ▪ Under Ramsar Criterion 1: Extensive intertidal mud and sand flats with large expanses of saltmarsh towards the head of the esturary. ▪ Under Ramsar Criterion 2: Supports breeding colonies of vulnerable natterjack (*Epidalea calamita*). ▪ Under Ramsar Criterion 5: Non-breeding season regularly supports 120,726 individual waterbirds. ▪ Under Ramsar Criterion 6: Species or populations occurring at levels of international importance.	▪ Ensure the average phytoplankton concentration does not increase significantly; ▪ Ensure there is no increase in concentrations of dangerous substances; ▪ Ensure there is no decrease in the variety of biotopes; ▪ Ensure there is no significant decrease in extent of individual pioneer saltmarsh communities; ▪ Ensure there is no increase in extent of *Spartina anglica* within the pioneer saltmarsh; ▪ Ensure there is no decrease in abundance of *Centaurium littorale;* and ▪ Ensure there is no significant decrease in total extent of Atlantic salt meadow communities.					
River Dee and Bala Lake – SAC – 5 km						
Primary Reasons for Designation *Annex I Habitats* ▪ Watercourses with floating mats of water-crowfoots and other associated aquatic species.	▪ Ensure ecological status of water environment is sufficient to sustain population of each species (i.e. no deterioration in water quality); ▪ Avoid physical modifications that may adversely affect the	▪ The site and its features are threatened by practices which have an adverse effect on the quality, quantity	Conwy and Clwyd Catchment and River Dee Catchment: *Deeside, Wirral, Flintshire sub-area*	All of the primary reasons and qualifying features are hydrological in nature or associated with hydrology.	Consultation and consent for CCW/FCC/EAW required for work within watercourses.	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying**

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
Annex II Species ▪ Atlantic salmon (*Salmo salar*); and ▪ Floating water-plantain. **Other Qualifying Features** *Annex II Species* ▪ Sea Lamprey (*Petromyzon marinus*); ▪ Brook Lamprey (*Lampetra planeri*); ▪ River Lamprey (*Lampetra fluviatilis*); ▪ Bullhead (*Cottus gobio*); and ▪ Otter (*Lutra lutra*).	integrity of the SAC; ▪ Ensure that artificial factors do not inhibit features by preventing them from occupying the full extent of their range. This can be achieved through modification; and ▪ With regard to each Annex II species: Maintain and increase extent of species potential range and ensure conservation status of species is favourable.	and pattern of water flows. ▪ Threats to riverine ecosystem: inappropriate flow regulation; excessive abstraction (for industry, agriculture and domestic purposes); threats to water quality from direct and diffuse pollution; eutrophication and siltation. ▪ Degradation of riparian habitats due to engineering works, agricultural practices and invasive plant species may also have an adverse effect. ▪ Atlantic salmon population is threatened by excessive exploitation by high sea, estuarine and recreational fisheries. ▪ Introduction of non-indigenous species could also threaten both fish and plant species.	*Mold sub-area* *Main Alyn sub-area* *Upper Dee sub-area*	As such this site may be impacted by the implementation of the CLFRMS.	As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's	**features of the SAC or their management.** Potential beneficial effects have been identified.

Appendix B. Screening Assessment of European Sites Hydrologically Connected to FCC Boundary and within 15 km

The Objectives as in table A.1 are to be used against the screening for European Sites hydrologically connected to the FCC boundary and within 15 km.

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
Berwyn and South Clwyd Mountains – SAC 5 km						
Primary Reasons for Designation *Annex I Habitats* ▪ European dry heaths; and ▪ Blanket bog. **Other Qualifying Features** *Annex I Habitats* ▪ Semi-natural dry grasslands and scrubland facies: on calcareous substrates (i.e. grasslands found on thin, well-drained, lime-rich soils associated with chalk and limestone); ▪ Transition mires and quaking bogs; and ▪ Calcareous and calcshist screes of the montane to alpine levels which are rich	▪ Maintain and increase extent of blanket bog; ▪ Ensure plant species characteristic of blanket bog (as outlined in CMP) are present and that water table is high across all areas of blanket bog; ▪ Ensure development of irregular pattern across the blanket bog to maintain quality of blanket bog; ▪ Restore areas of degraded blanket bog habitat and discourage burning of blanket bog as well as the development of moor drains or grips; and ▪ Ensure no non-native invasive plant species are present and no decline in the range or abundance of plant species characteristic of this habitat.	▪ Inappropriate agricultural development (including: drainage, reseeding, application of fertilisers, burning, track construction and adoption of damaging grazing regime) threatens blanket bog, heaths, fens and grasslands; ▪ Areas of heath and grassland are also threatened by encroachment of bracken; and ▪ Erosion caused by local tourist	North West Wales Catchment: *Upper Dyfi and Upper Wnion sub-area*	2 of the primary reasons and qualifying features are associated with hydrology. As such this site may be impacted by the implementation of the CLFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
in fern flora and act as refugia for a number of rare species.		pressure and damage from recreational vehicles.			reduced through good site practice. Project level assessments such as EIA's and HRA's.	
Berwyn – SPA 15 km						
Reasons for SPA designation Site is of European importance for Annex I bird species listed on Birds Directive: hen harrier (*Circus cyaneus*) merlin (*Falco columbarius*), peregrine (*Falco peregrines)* and red kite (*Milvus milvus).*	▪ There will be no measurable decline in blanket bog; the area of the habitat must be stable or increasing. ▪ There will be no measurable decline of dry heath area; the area of the habitat must be stable or increasing ▪ The extent of the calcareous and neutral grasslands should be maintained or increase in size at the expense of bracken, scrub and other more improved grasslands. No loss in extent is acceptable. ▪ There will be no measurable decline in Transition mires and quaking bogs; the area of the habitat must be stable or increasing.	▪ The breeding habitats of the hen harrier, merlin, red kite and peregrine are threatened by inappropriate agricultural operations such as drainage and reseeding, application of fertilisers and the adoption of damaging grazing regimes; and ▪ All the qualifying species are vulnerable to human persecution, by disturbance or destruction of nests, eggs or young; as well as illegal killing of adult birds	North West Wales Catchment: *Upper Dyfi and Upper Wnion sub-area*	Habitats and food sources associated with these Annex I bird species are associated with or dependent on hydrology. As such this site may be impacted by the implementation of the CLFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SPA. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's. This may result in restriction on the timings of the works to account for the	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.

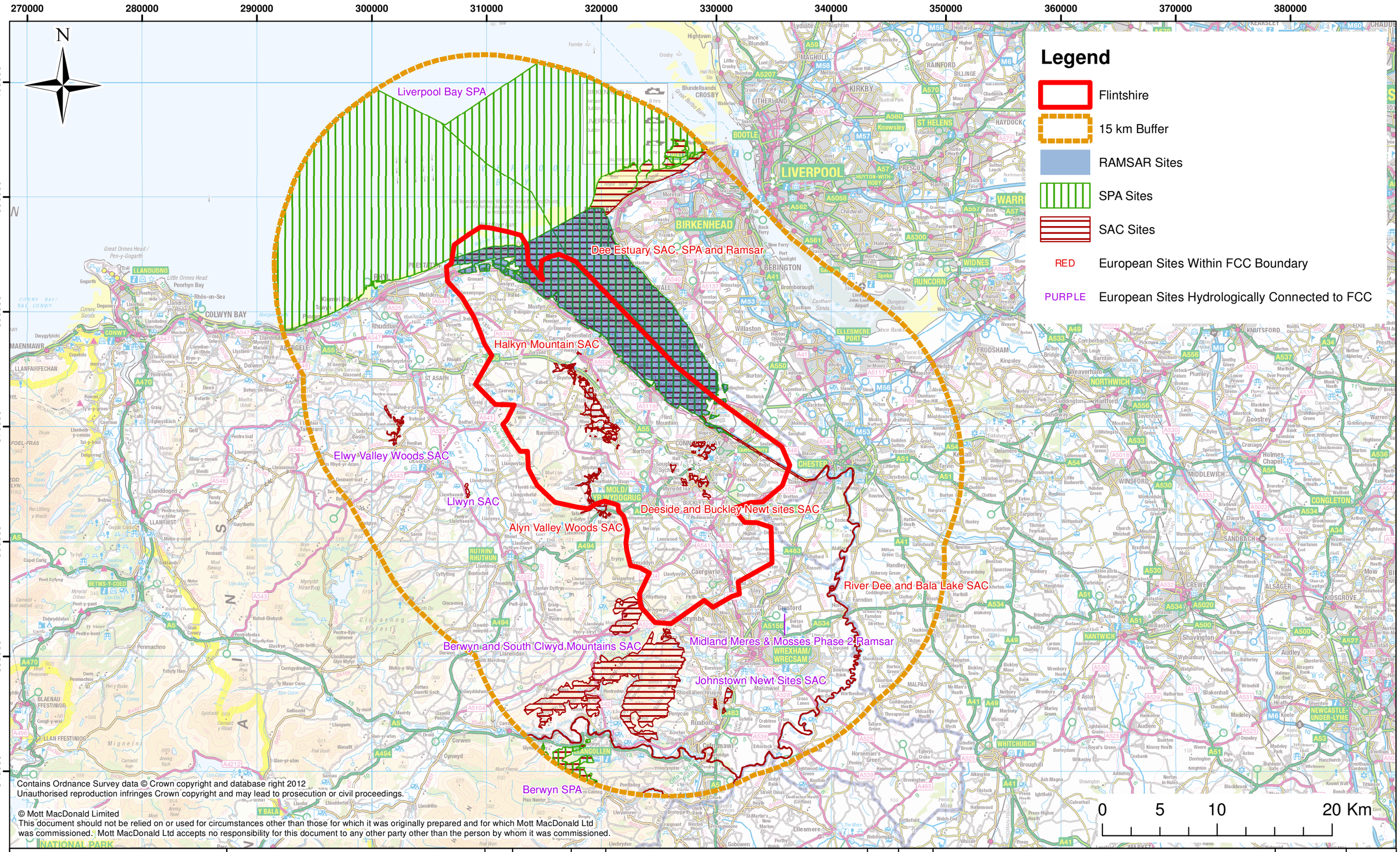
Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
					bird population.	
Liverpool Bay – SPA – 5 km						
Reasons for SPA designation ▪ Site is of European importance for Annex I bird species listed on Birds Directive: Red-throated Diver (*Gavia stellata*) and Common scoter (*Melanitta nigra*).	▪ Maintain the area of sandbanks in the site within acceptable limits; ▪ Mean overwintering population of Red-throated Diver should not fall below 922; ▪ There should be no significant reduction in numbers of over-wintering birds or displacement attributable to disturbance; ▪ No decrease in the extent of undisturbed sublittoral, shallow (<20m) Sandbank habitat available for common Scoter feeding; ▪ Mean overwintering population of Scoter should not fall below 54,675 individuals; and ▪ Mean overwintering population of waterfowl and sea birds should not fall below 55,597individuals.	▪ Extraction of Red-throated Diver's main fish prey could impact population; ▪ Red throated divers and common scoters are sensitive to non physical, (noise and visual) disturbance by both commercial and recreational activities; ▪ Aggregate extraction presents some risks of disturbance and also changes to sediment structures which could affect the common scooter benthic feeding grounds; and ▪ Red-throated divers and common scoters are being displaced by the presence of turbines and their associated activities.	Conwy and Clwyd Catchment; River Dee Catchment; and North West Wales Catchment.	Habitats and food sources associated with these Annex I bird species are associated with or dependent on hydrology. As such this site may be impacted by the implementation of the CLFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan the features of interest to undertake works within the SPA. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's. This may result in restriction on the timings of the works to account for the bird population.	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.
Midland Meres and Mosses Phase 2 – Ramsar – 10 km						
▪ Under Ramsar Criterion 1: Site comprises of diverse	▪ Maintain the wide range of lowland wetland types and	N/A	River Dee Catchment:	The features of this site that relate to	Consultation and consent for	Provided control measures are

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
range of habitats from open water to raised bog; and ▪ Under Ramsar Criterion 2: Supports rare plant species associated with wetlands including nationally scarce cowbane (*Cicuta virosa*) and sedge (*Carex elongata*) and also nationally scarce bryophytes. Also supports rare invertebrate assemblage.	successional stages within a distinct biogeographical area. Of particular importance are the quaking bogs or schwingmoors which have formed in the peat-filled basins leading to the development of ombrotrophic conditions.		*Bala sub-area*	Criterion 1 and 2 are either hydrological in nature or associated with hydrology. As such this site may be impacted by the implementation of the LFRMS.	CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the Ramsar. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's.	adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.
Elwy Valley Woods – SAC – 15 km						
Primary Reasons for Designation *Annex I Habitats* ▪ Woodland with a varied canopy of Ash, small-leaved lime and wild service-tree (*sorbus torminalis*) and outstanding lower plant flora.	▪ Maintain extent of woodland (by natural processes); ▪ Ensure woodland contains appropriate plant species (as outlined in CMP) at appropriate abundances and densities. ▪ Discourage the presence of conifers (except yew), beech, hornbeam (*Carpinus sp.*) and sycamore; and ▪ Retain deadwood (either standing or fallen) to provide habitat for invertebrates, fungi	▪ Grazing by fallow deer. Some sections are threatened by domestic livestock grazing; ▪ Non-native invasive species occur in woodland (mainly beech and hornbeam); and	River Conwy and Clwyd CFMP area: *Clwyd Catchments and Upland sub-area*	None of the primary reasons or qualifying features are hydrological in nature or associated with hydrology. As such this site is unlikely to be impacted by the implementation of the CLFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
	and other woodland species.	▪ Parts of these woods are silviculturally managed. If this is intensified or extended, it could potentially be damaging.			each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's	effects have been identified.
Johnston Newt Sites – SAC – 15 km						
Primary Reasons for Designation *Annex II Species* ▪ Great crested newt (*Triturus cristatus*).	▪ With regard to great crested newts: - Site should support at least 300 adults in and around ponds within the site; - Manage terrestrial and aquatic habitats to ensure suitable breeding ponds and foraging, sheltering, dispersal and over-wintering areas for great crested newts. Retain and restore existing ponds; - Ensure conditions of the ponds are suitable for great crested newts as outlined in CMP; - Ensure amphibian chytridiomycosis is not present; and - Ensure no non-native species are present.	▪ Aquatic and terrestrial habitats of great crested newts are vulnerable to destruction and inappropriate management; and ▪ Vulnerable to unregulated public access, fly-tipping, pollution and pressures from development;	River Dee CFMP area: *Middle Dee sub-area*	Primary reason is associated with hydrology. As such this site may be impacted by the implementation of the LFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice.	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.

Reasons for Designation	Key Environmental Conditions that support site integrity	Environmental Vulnerabilities	Catchment(s) (EA 2010)	Initially screening results without control measures	Control measures	Screening results with control measures
					Project level assessments such as EIA's and HRA's.	
Llwyn – SAC – 15 km						
Primary Reasons for Designation Annex I Habitats ▪ Woods dominated by alder and willow on flood plains.	▪ Maintain extent of woodland (by natural processes); ▪ Discourage presence of non-native species; and ▪ Maintain structure of woodland, as outlined in CMP.	▪ Parts of the site have been subject to grazing, which has impacted on natural regeneration; ▪ Invasive sycamore is present, but has the potential to spread; and ▪ Maintenance of water table in this habitat can be problematic.	River Conwy and Clwyd CFMP area: *Clwyd Valley sub-area*	Primary reason is associated with hydrology. As such this site may be impacted by the implementation of the LFRMS.	Consultation and consent for CCW/FCC/EAW required for work within watercourses. As a result of the consultation with statutory bodies (such as CCW/FCC) it would be anticipated that each individual project would need to produce a management plan to undertake works within the SAC. Environmental impacts can be reduced through good site practice. Project level assessments such as EIA's and HRA's.	Provided control measures are adhered to, **it is anticipated that there will be <u>No Significant Effects</u> on qualifying features of the SAC or their management.** Potential beneficial effects have been identified.

Appendix C. Map of European Sites Located within ZoI of FCC LFRMS



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Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	05/02/2013	HR	Drawing created	CL	ECP

Title:
European Sites Located within ZoI of FCC LFRMS

Drawn	HR
Checked	CL
Approved	ECP
Scale at A3	1 : 300000
Rev	P1
Status	INF

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