

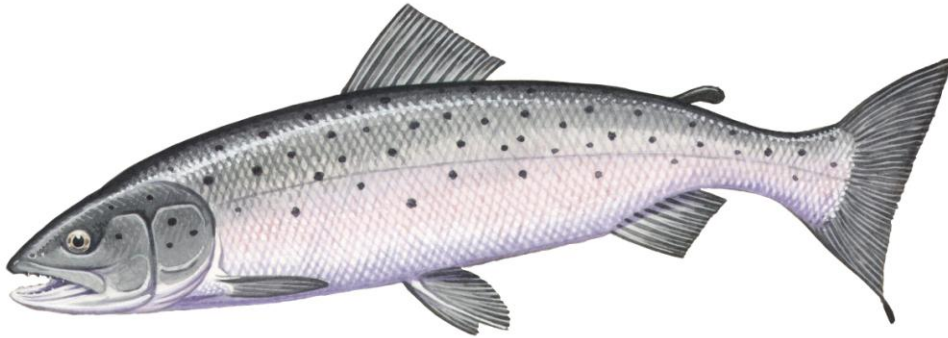
ASERA

ASSOCIATION OF SEVERN ESTUARY RELEVANT AUTHORITIES

Management Scheme for the Severn Estuary SAC, SPA and Ramsar European marine sites



Saltmarsh Habitat on the Severn Estuary, ©SEP



Severn Estuary Salmon © ASERA

“There were many fish moving in through the deep water of the channel that night. They were full-bellied fish, soft-finned and covered with large silvery scales. It was a run of spawning shad, fresh from the sea. [...]

As the night drew darker and the tides pressed farther into the marshes and moved higher into the estuary of the river, the silvery fish quickened their movements, feeling their way along the streams of less saline water that served them as paths to the river. The estuary was broad and sluggish, little more than an arm of the sound. Its shores were ragged with salt marsh, and far up along the winding course of the river the pulsating tides and the bitter tang of the water spoke of the sea.

Some of the shad were three years old and were returning to spawn for the first time. A few were a year older and were making their second trip to the spawning grounds up the river. [...]

Most of the fish coming in now were females, heavy with unshed roe. It was late in the season and the largest runs had gone before. The bucks, who came into the river first, were already on the spawning grounds, as were many of the roe shad. [...]

Each of the roe fish would shed in a season more than a hundred thousand eggs. From these perhaps only one or two young would survive the perils of river and sea and return in time to spawn, for by such ruthless selection the species are kept in check.”

Carson. R. (1941) Under the Sea-Wind (Edge of the Sea. Food Tide). Published by Penguin

Severn Estuary European marine sites Management Scheme ~ 2011

Compiled by Christine Marsh on behalf of the Association of Severn Estuary Relevant Authorities (ASERA)

Acknowledgements

The production of this Management Scheme has involved extensive consultation with Relevant and Competent Authorities, members of the Advisory Group and other interests. The support received and time given by particular officers and members of these organisations was fundamental to the production of this document and is much appreciated.

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Amendments

Over time this Management Scheme will be updated to reflect changing conditions, management and information known about the site. To ensure the contents of this document remain up-to-date, an annual report will be produced which will provide details of changes to the Management Scheme. When these reports are circulated, please use the table below as a record.

Change	Pages affected	Change made by	Date of change

1. What is the Management Scheme?

Management Schemes make a significant contribution to the implementation of the Habitats Directive and the Birds Directive for European marine sites.

Article 6 of the Habitats Directive defines the requirements for the management of European marine sites, specifically with [Articles 6\(1\) and 6\(2\) of the Habitats Directive](#)¹ (see [Text box 1](#)) which require Member States to establish and implement appropriate measures to conserve and avoid deterioration of the natural habitats and species for the areas which have been designated.

Text box 1: Articles 6(1) and 6(2) of the Habitats Directive

Article 6.—

(1) For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.

(2) Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.

Relevant Authorities (see [Text box 3](#) for definition) must, within their areas of jurisdiction, have regard to both direct and indirect effects on an interest feature of the site. This may include consideration of issues beyond the boundary of the European marine sites. Under [Regulation 36 of the Conservation of Habitats and Species Regulations 2010](#)² (see [Text box 2](#)), Relevant Authorities may establish a Management Scheme for European marine sites within their authority. This document provides the Management Scheme for the Severn Estuary SAC, SPA and Ramsar sites and should be used to guide the Relevant Authorities in the exercise of their functions as they relate to these sites.

Text box 2: Regulation 36; A Management Scheme for a European marine site

Regulation 36.—

(1) The Relevant Authorities, or any of them, may establish for a European marine site, a Management Scheme under which their functions (including any power to make byelaws) are to be exercised so as to secure in relation to that site compliance with the requirements of the Habitats Directive.

(2) Only one Management Scheme may be made for each European marine site.

(3) A Management Scheme may be amended from time to time.

(4) As soon as a Management Scheme has been established, or is amended, a copy of it must be sent by the Relevant Authority or authorities concerned to the appropriate nature conservation body.

This Management Scheme has been prepared following the advice given in the Department of Environment Transport and the Regions (DETR) Guidance for preparing and applying Management Schemes for European marine sites in England and Wales under the Habitats Regulations 1994.

¹ <http://bit.ly/lmLEJY>

² <http://bit.ly/mMGJeV>

1.1 The Management Scheme process

The Management Scheme sets out the management needs for the European marine sites (EMS). The process of defining the Management Scheme enables Relevant Authorities to understand the interest features of local European marine sites and activities that may affect them. The process involved in developing the Management Scheme clearly identifies appropriate management options and an implementation action plan.

The Management Scheme for the Severn Estuary European marine sites will draw upon the conservation objectives defined for each of the features of the SPA, SAC and RAMSAR sites as advised by the Countryside Council for Wales (CCW) and Natural England (NE).

Regulation 35 of the Conservation of Habitats and Species Regulations 2010 gives Natural England and the Countryside Council for Wales a statutory responsibility to advise Relevant Authorities on the conservation objectives for European marine sites in England and Wales and on any operations which may cause deterioration or disturbance to the features for which the sites have been designated. This advice was produced in June 2009 as '[NE and CCW's advice under Regulation 33\(2\)\(a\) of Habitats Regulations 1994](#)'^{3,4}. Section 4 of this document gives the Conservation Objectives and Favourable Condition Tables and Section 5 gives the Advice on Operations.

This document is the single integrated Management Scheme for the Severn Estuary European marine sites which are the:

- Severn Estuary Special Protection Area (SPA)
- Severn Estuary Ramsar Site
- Severn Estuary Special Area of Conservation (SAC).

Further information on the extent and nature of these designations are given in [Appendix 1](#) and in the [formal advice issued to Relevant Authorities \(through ASERA\) by the Countryside Council for Wales and Natural England under Regulation 33](#)³

1.2 The Severn Estuary European Sites and Ramsar site

The Estuary was classified as a Special Protection Area (SPA) and a Ramsar Site in 1995 and designated as a Special Area of Conservation (SAC) in December 2009. Where a SPA, such as the Severn Estuary, or SAC incorporates subtidal and/or intertidal areas, they are referred to as European marine sites (EMS). Figure 1 shows the extent and relationships of the SAC, SPA and Ramsar site designations in the Severn Estuary. The table in [Appendix 2](#) shows a summary of the features by designation and the interrelationship between them. The detailed descriptions of these designations and their qualifying features are laid out in full in the [advice issued to Relevant Authorities \(through ASERA\) by the Countryside Council for Wales and Natural England under Regulation 33](#).

The key features for which the Severn Estuary is designated as a SAC and a SPA are: Estuary, Subtidal sandbanks, Intertidal Mudflats and Sandflats, Atlantic salt meadow, Reefs, River lamprey, Sea lamprey and Twaite shad, internationally important populations of migratory bird species, internationally important populations of wintering bird species and assemblages of nationally important populations of waterfowl.

³ <http://bit.ly/lzhKeU>

⁴ As a result of the amendments in March 2010 to the (now) Habitats and Species Regulations, 'Regulation 33' has been renumbered to become 'Regulation 35', nevertheless the wording of this regulation remains the same. Where 'the Regulation 33 document' is mentioned in this Management Scheme, reference should be made to the advice within the document that was produced by Natural England and Countryside Council for Wales for the Severn Estuary European marine site in June 2009. Where 'Regulation 35' is quoted, the Habitats and Species Regulations 2010 should be referred to.

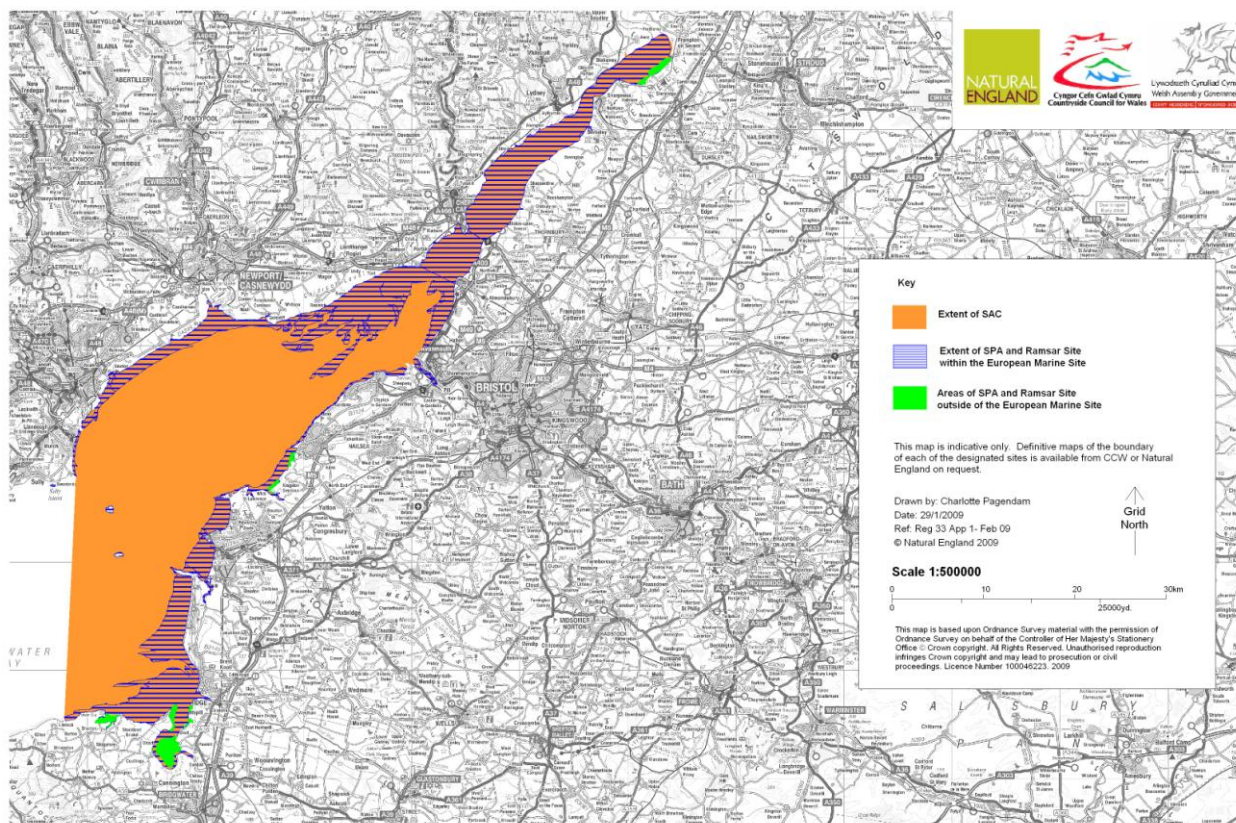


Figure 1: The extent and relationships of the SAC, SPA and Ramsar site designations

Source: Natural England

2. Who is responsible for implementing the Management Scheme?

This Management Scheme has been prepared by the Relevant Authorities for the Severn Estuary, in line with Regulation 36 ([see Text box 2](#)), under the umbrella of the Association of Severn Estuary Relevant Authorities (ASERA) ([see Text box 4](#)). The Relevant Authorities are listed in [Text box 3a](#).

Relevant Authorities are defined in Regulation 6 of the Habitats Regulations ([see Text box 3](#)). They are those authorities, from the list given in [Text box 3](#), that have functions relating to land or waters within or adjacent to an EMS.

Although not specifically mentioned in [Regulation 6](#), the Welsh Government has equivalent responsibilities in Welsh waters for functions which, when carried out in England are undertaken by the Marine Management Organisation and Inshore Fisheries and Conservation Authority. [Part 9 of ASERA's Constitution](#) details the membership structure of ASERA's Management Group that are involved in both English and Welsh functions.

Text box 3: Definition of Relevant Authorities

Relevant Authorities in relation to marine areas and European marine sites

Regulation 6. — For the purposes of these Regulations the Relevant Authorities, in relation to a marine area or European marine site, are such of the following as have functions in relation to land or waters within or adjacent to that area or site:

- (a) a nature conservation body;*
- (b) a county council, county borough council, district council or London borough council;*
- (c) the Environment Agency;*
- (d) the Marine Management Organisation;*
- (e) a water undertaker or sewerage undertaker, or an internal drainage board;*
- (f) a navigation authority within the meaning of the Water Resources Act 1991(b);*
- (g) a harbour authority within the meaning of the Harbours Act 1964(c);*
- (h) a lighthouse authority;*
- (i) an inshore fisheries and conservation authority established under Part 6 of the Marine Act(d) (management of inshore fisheries);*
- (j) a local fisheries committee constituted under the Sea Fisheries Regulation Act 1966(e) or any authority exercising the powers of such a committee; and*
- (k) a National Park authority.*

[A map showing the Relevant Authorities and their area of jurisdiction is available on the ASERA website⁵.](#)

⁵ <http://bit.ly/jjsB9u>

Text box 3a: The Severn Estuary Relevant Authorities

Ports and Harbour Authorities

- Associated British Ports (ABP) *
- Bridgwater Port Authority (BPA) (c/o Sedgemoor District Council)
- British Waterways (BWw), Sharpness *
- Cardiff Harbour Authority (CHA) (c/o Cardiff County Council) *
- Gloucester Harbour Trustees (GHT) *
- Newport Harbour Commissioners (NHC) *
- The Bristol Port Company (TBPC) *
- Trinity House Lighthouse Service (THLS) *

Water Companies and Drainage Boards

- Bridgwater and Pawlett District Drainage Board (B&PDDB)
- Bristol Water Plc.(BW)
- Caldicot and Wentlooge Internal Drainage Board (C&W IDB)*
- Cannington and Wembdon District Drainage Board (C&WDDB)
- Dwr Cymru/Welsh Water * (WW-DC)
- Gordano Valley Internal Drainage Board (GV IDB)
- Lower Severn Internal Drainage Board (LS IDB)
- North Somerset Internal Drainage Board (NS IDB)
- Somerset Drainage Consortium (SDC)*
- Severn Trent Water Ltd. (STW)
- Wessex Water * (WW)
- West Mendip Internal Drainage Board (WM IDB)*

Local Authorities

- Bristol City Council (BCC)*
- Cardiff County Council (CC)*
- Forest of Dean District Council (FoDDC) *
- Gloucester City Council (GLCC)
- Gloucestershire County Council (GCC)*
- Monmouthshire County Council (MCC)*
- Newport City Council (NCC) *
- North Somerset Council (NSC)*
- Sedgemoor District Council (SgCC) *
- Somerset County Council (SCC) *
- South Gloucestershire County Council (SGC)*
- Stroud District Council (StDC) *
- Vale of Glamorgan County Council (VoGCC)*
- West Somerset District Council (WSDC)

Environment and

Nature Conservation Agencies

- Countryside Council for Wales (CCW) *
- Environment Agency (EA)* (SE Wales Region, Wessex Region, and Western Area in Midlands Region)
- Devon and Severn Inshore Fisheries and Conservation Authority (D&S IFCA)*
- Marine Management Organisation (MMO)
- Natural England (NE) *

* Indicates a member of ASERA (in 2011)

Text box 4: ASERA (The Association of Severn Estuary Relevant Authorities)

ASERA was formed in recognition of the practical and resourcing difficulties which would be experienced by many organisations if they were to individually attempt to discharge their statutory duties for nature conservation designations in and around the Severn Estuary. The objective of the Association is to establish and implement a Management Scheme under which the functions of the Relevant Authorities can be exercised so as to secure compliance with the requirements of the Habitats and Birds Directives for the Severn Estuary European marine sites.

ASERA Management Group Representatives are drawn from the four main groups of Severn Estuary Relevant Authorities (see Box 3a). This group facilitates and directs the development and implementation of the Management Scheme. It may also establish specific sub-groups to consider the development and subsequent operation of the Management Scheme with relevance to various parts of the European marine sites or to address particular topics.

The ASERA Working Group was set up as sub-group of the Management Group to assist the Implementation Officer with administration and drafting of the Management Scheme, including provision of detailed comments on various chapters.

The ASERA Implementation Officer undertakes and facilitates the preparation, implementation and monitoring of the Management Scheme by and on behalf of ASERA members.

The ASERA Advisory Group includes non-relevant authorities to give advice to ASERA, thereby enabling the Management Scheme to take full account of users' views and foster support for the scheme. Members are directly approached for consultation on developments of the Management Scheme.

More information can be found in [ASERA's Proceedings and its Constitution](#).

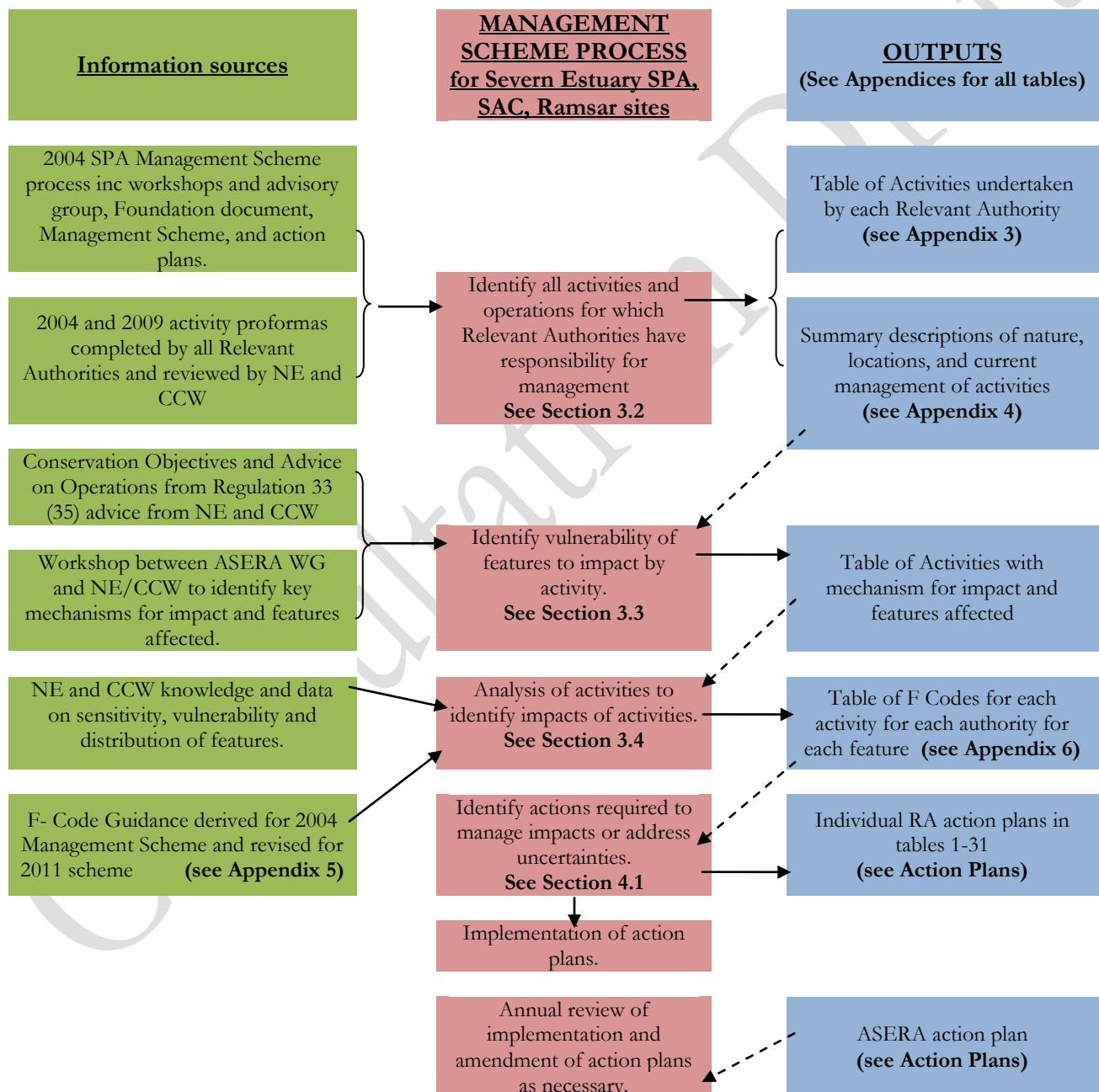
3. The Management Scheme

This document supersedes the 2003/2004 Severn Estuary Management Scheme prepared for the SPA.

3.1 How has the Management Scheme been prepared?

Figure 2 gives a summary of the process of assembling the Management Scheme for the Severn Estuary European marine sites. This identifies the key steps in the process and key outputs that provide valuable background and reference information.

Figure 2 : The Management Scheme Process



3.2 Identification of activities and operations for which Relevant Authorities have responsibility for management

The activities and operations undertaken by each Relevant Authority during the first iteration of the Management Scheme in 2004, and those which have been reported in 2010 are defined in [Appendix 3](#). For each activity or operation undertaken or managed by Relevant Authorities ([see Text box 5](#)), a proforma has been completed. Details include information on the location, frequency, management and monitoring of activities.

Text box 5: Activities and Operations undertaken or Managed by Relevant Authorities

ANGLING related: Angling (recreational), Bait digging, Eel and elver fishing, Fishing (commercial).

BOAT/SHIP related: Anchoring (recreational), Anchoring (commercial), Boat repairs (recreational), Boat repairs (commercial), Moorings, Navigation

INFRASTRUCTURE: Cable laying and maintenance, Coastal protection and flood defence improvement and maintenance works, Outfall maintenance, Pipeline maintenance, Property and estate maintenance

LAND MANAGEMENT: Agricultural run-off, Beach cleaning, Grazing, Habitat creation and restoration

MISCELLANEOUS: Low flying aircraft

PLANNING: Emergency planning, Managing unauthorised waste

PORT related: Commercial shipping/cargo operations, Discharge/exchange of water ballast, Lockgate and dock water mgt., Maintenance dredging, Port waste management (inc ship generated waste)

RECREATION: Airborne sport, Events/Festivals, Land based recreation, Water based recreation, Wildfowling

SCIENCE and EDUCATION: Archaeology (studies and protection), Collection of scientific data, Educational field trips

WATER MANAGEMENT: Barrage and sluice operation, Estate discharge, Excavation, Highways discharge, Release of contamination through historic industry, Water channel maintenance.

The information contained within the individual RA proformas was reviewed by the nature conservation agencies, collated by activity and summarised. Links to the key mechanisms for potential impacts were made. The results of this collation are shown in [Appendix 4](#).

3.3 Identification of vulnerability of features to impact by activities

The nature conservation agencies identified the relationships between the activities, the sites' nature conservation features and their relative vulnerabilities to impacts. This information was drawn from a combination of the Advice on Operations contained within the Regulation 33 advice and the information obtained through the Relevant Authorities' activity proformas. Tables were produced to provide key reference data for the identification and assessment of impacts in the later stages of the Management Scheme. These tables are available from ASERA upon request.

3.4 Analysis of activities to identify impacts

Having identified the activities for each Relevant Authority and the vulnerability of the features to the various activities, the impact for every feature from every activity undertaken by each Relevant Authority was assessed by the nature conservation agencies (see [Appendix 4](#)). This was done in accordance with the guidance in [Appendix 5](#). This is a system for giving each activity an 'F' code for its impacts.

The impact of an activity can depend upon its scale, location and frequency as well as the vulnerability of a feature. This means that an activity may have a different impact for different Relevant Authorities.

Each activity for each Relevant Authority was given three codes; one for impact on the habitats, one for impacts (including disturbance) on birds and one for impacts on fish. The results of the assessment have been summarised in a combined matrix for each of the activities, Relevant Authorities and features. This matrix can be found in [Appendix 6](#) of this document.

3.4.1 F1 Activities identified as Plans or Projects

An F1 code indicates that an activity is, or should be considered as a 'plan or project' under the Habitats Regulations. Plans or projects are, in general, operations which require some form of consent, licence or other decision or authorisation by a public body and should be subjected to a 'Habitats Regulations Assessment' by the Competent Authority (rather than the Relevant Authority). Regulations 7, 9, 61 – 82 (and potentially other Regulations) of the Habitats Regulations 2010 apply.

Although it is NOT the role of ASERA or the Management Scheme to apply Habitats Regulations Assessments to the determination of plans and projects, it is considered helpful to include reference to these types of operations in the Management Scheme for several reasons. There is no clear statutory definition of the term 'plan or project' and thus no clear statutory basis on which to determine the limits of functional jurisdiction of the Management Scheme. The effects of past, ongoing and future plans and projects on the features of the Severn Estuary may affect the way in which Relevant Authorities approach the taking of action under the Management Scheme. All the Relevant Authorities are also considered to be 'Competent Authorities' under the Habitats Regulations, therefore have duties to consider plans or projects.⁶ Countryside Council for Wales and Natural England have advisory functions in relation to both the Management Scheme and the consideration of plans and projects. Indeed the conservation objectives in the Regulation 35 advice support both processes. On that basis it is considered appropriate for the Management Scheme to make reference to plans and projects, noting that this does not affect the statutory regime under which plans and projects are assessed and determined. Activities that constitute plans or projects have been submitted on activity proformas by the Relevant Authorities.

⁶ Competent authorities are defined in Regulation 7 of the Habitats Regulations. The term essentially means any public body or statutory undertaker.

3.4.2 F2 Activities identified as having no possible impact

F2 activities have no mechanism to cause an effect and have no possible impact upon the features of the Severn Estuary European marine sites.

No action is required under the Management Scheme for Relevant Authorities carrying out these activities.

3.4.3 F3 Activities identified as having an unknown impact

All F3 activities have the potential to cause deterioration or significant damage to a feature(s), but there is currently insufficient information to determine if it is causing deterioration or significant disturbance at this time.

Action is required under the Management Scheme by the Relevant Authorities carrying out these activities and [Appendix 5](#) provides a list of options.

Selection of the appropriate management option will be considered on a case by case basis, depending on the likelihood of an impact occurring and the magnitude of that possible impact. Effort and costs associated with researching or addressing “unknown impacts” should be proportional to the risk of damage and environmental improvement likely to result from those actions.

The most likely action, therefore, is surveillance of the activity by the Relevant Authority to provide information (to ASERA/CCW and NE) in order to better understand the nature of the effects on sensitive features which are exposed to the activity.

Activities where features have an F3 include Airborne sports, Angling (recreational), Bait digging, Barrage and Sluice operations, Land based recreation, Low flying aircraft, Maintenance dredging and Water based recreation. These activities are all location specific.

3.4.4 F4 Activities identified as not having an impact

All F4 activities have the potential to cause deterioration or significant damage to a feature(s), but current information shows that it is not causing deterioration or significant disturbance at present in the Severn Estuary European marine sites.

No action is required under the Management Scheme for Relevant Authorities carrying out these activities.

3.4.5 F5 Managed activities identified as having a significant impact

All F5 activities have been identified as causing known deterioration or significant disturbance to a feature(s), and the mechanism(s) for this impact is known.

Action is required under the Management Scheme by the Relevant Authorities carrying out these activities and a range of measures have been identified in [Appendix 5](#).

The activities which have been identified as having a significant impact (F5) on some of the features of the European marine sites are barrage and sluice operations, and Angling. The impact of these activities is considered to be significant only at specific locations.

3.4.6 F6 Unmanaged activities identified as having a significant impact

All F6 activities have been identified as causing deterioration or significant disturbance to a feature(s), but it is outside management control (i.e. natural process, or there is no current mechanism for management).

At the time of writing, none of the activities carried out by the Relevant Authorities within the Severn Estuary European marine sites falls into this category.

4. Action Plans

4.1 Action Plans

This section identifies the management measures (actions) required by Relevant Authorities to address known and possible impacts on the features of the European marine sites from their activities.

In identifying measures for inclusion in the Action Plans the following have been considered:

- actions in respect of F1 activities (plans or projects) which will need to be dealt with in a Competent Authority role ([see Section 3.4.1](#))
- actions for Relevant Authorities where the impacts of their activities have been identified as F3 (unknown impact) and F5 (significant impact)
- addressing uncertainties, such as the F4 (no impact) activities which give concern over their assessment as insufficient information was provided by the Relevant Authority
- the ongoing provision of information about the activities. Essentially expanding and updating the knowledge and information gaps and informing the nature conservation agencies and ASERA of any changes in circumstances
- the voluntary approach, actions to be based on co-operation and consensus between organisations wherever possible
- mechanisms to update the Action Plans.

Action Plans provide the mechanism for Relevant Authorities to address the following:

- Activities identified as likely to be causing deterioration or significant disturbance to the site
- Activities, the effects of which are unknown (i.e. there is insufficient information available at present to determine whether they are actually causing deterioration or significant disturbance to the site or not)
- Certain plans and projects of an ongoing and repetitive nature for which ASERA may facilitate the production of guidance notes.

Individual Action Plans have also been produced, specifically for each Relevant Authority in order to manage their activities in a way that assists the achievement of nature conservation objectives for the site. [See Action Plans](#).

Actions fall into two categories, those to be undertaken by Relevant Authorities or centrally by ASERA, and 'other actions required' to be undertaken by members of ASERA in their 'Competent Authority' role. All the Relevant Authorities are also 'Competent Authorities' under the Habitats Regulations, with duties in relation to the consideration of plans/projects⁷.

4.2 ASERA Action Plan

Some actions would be most efficiently undertaken centrally by ASERA. These include assisting the Relevant Authorities in the implementation of their action plans and end of year reporting, co-ordinating the production of guidance notes for certain activities (and plans and projects if ASERA feel this is appropriate), servicing the ASERA members and generally raising awareness of users about the

⁷ Competent authorities are defined in Regulation 7 of the Habitats Regulations. The term essentially means any public body or statutory undertaker.

importance of the site and the implications for Relevant Authorities. A specific action plan for ASERA is outlined in the [Action Plans](#).

Progress with implementing ASERA's action plan will be reported bi-annually at the ASERA MG meetings, and again annually in ASERA's Annual Report where progress on all the action plans will be published.

Relevant Authorities attending an ASERA workshop in September 2009 made comments and suggestions regarding the supporting role ASERA could play in improving awareness of the designations and the requirements for Relevant Authorities. These suggestions have been considered in the drafting of the Management Scheme document and are reflected where relevant in the ASERA Action Plan. ASERA intends to approach any outstanding actions during the implementation of the scheme.

4.3 Implementation of ASERA and individual Relevant Authority Action Plans

The Management Scheme does not set out to be a static document. It is an ongoing process that aids decision making and continually evolves to take account of changing issues and legal obligations. This will be achieved by reporting on the implementation of the scheme and updating the Action Plans electronically as well as using the website to signpost and link to existing plans, initiatives and other relevant documentation.

It is the responsibility of the Relevant Authorities to implement their individual actions and inform the ASERA officer of any material changes. In this way, the Management Scheme may be maintained as an up-to-date and living document that reflects the local conditions of sites and takes account of good practice from other EMS in the UK. Relevant Authorities also need to have regard to changing circumstances of the European marine sites and therefore, may need to modify the Management Scheme and/or the way in which they exercise their functions so as to maintain the long term favourable condition of interest features.

The preparation of the Management Scheme undertaken by ASERA has helped to raise Relevant Authorities' awareness of their responsibilities to the European marine sites under the Habitats Regulations. As stated above, it is the responsibility of each Relevant Authority to ensure it implements the Management Scheme as a whole, via ongoing monitoring and reporting of activities and actions within the European marine sites. This should include any actions identified in the Action Plans. The conservation Agencies, together with ASERA have suggested general management measures where necessary, to address activities where there is an unknown or significant impact on the designated features. The individual responsible Relevant Authority, or group of Relevant Authorities, will consider, agree and implement specific actions, in consultation with the nature conservation bodies, to address the potential effects of those activities indicated in the Action Plan.

In certain cases when more than one Relevant Authority is responsible for managing an activity with a known or unknown effect on the site, or where there are gaps in management, Relevant Authorities have agreed to work co-operatively to address the issues. A partnership approach will be achieved by setting up topic groups and if appropriate, Advisory Group members or other relevant organisations may be invited to participate. Discussions will then take place to determine further possible management actions and solutions.

During the implementation of the Management Scheme more specific management actions may be identified by individual or groups of Relevant Authorities in order to address certain activities. These management actions may derive from existing procedures/initiatives or may be specifically written for the Management Scheme.

There is no requirement for Relevant Authorities to take any actions beyond their statutory functions. Under certain circumstances, where another Relevant Authority is unable to act for legal reasons, or where there is no other Relevant Authority, Natural England and Countryside Council for Wales have

powers to use their bylaw-making powers under [Regulation 38](#) of Habitats Regulations to enforce the Management Scheme.

There are several bodies concerned with the management of the Severn Estuary that offer some form of coordination and collaboration between different sectors of the community. These include groups that represent the views and opinions of individuals and organisations. These may be geographically based and associated with particular initiatives such as estuary management plans, or sectoral and based on areas of interest, such as the Severn Estuary Coastal Group and the Bristol Channel Standing Environment Group. Relevant Authorities and ASERA need to have due regard to other plans around the Severn Estuary when they are undertaking their activities e.g. Local Authority plans, Shoreline Management Plans, Counter-Pollution Plans etc.

Relevant Authorities should ensure that all their plans for the area integrate with the Management Scheme for the European marine sites. Such plans may include Shoreline Management Plans, the Environment Agency's Flood Risk Management Strategy and Catchment Flood Management Plans, Local Development Plans and Frameworks, Sites of Special Scientific Interest Management Plans, local Biodiversity Action Plans and Sustainable Development Strategies for estuaries, the Severn River Basin Management Plan under the Water Framework Directive and the adjacent South West River Basin Management Plan which covers Bridgwater Bay. Such an approach will ensure that there is one Management Scheme through which all Relevant Authorities exercise their duties under the Habitat Regulations.

4.4 Review and Reporting

As required by the Habitats Directive, the UK must report to the European Commission on the conservation status of all species and habitats of European protected sites as well as the effectiveness of the measures they have taken. Natural England and Countryside Council for Wales are the responsible bodies for this.

Relevant Authorities will be responsible for reporting to ASERA on their progress with implementing action plans. Relevant Authorities are expected to report in writing to ASERA annually (by the first week in November), preferably using a simple online system on the ASERA website (with the first reporting period being November 2012). Such reporting by the Relevant Authorities will allow a review of progress of the following:

- a. the progress with implementation of individual actions within their action plans
- b. any changes to activities (e.g. location, extent or frequency) or to management practices
- c. any changes to plans or initiatives (F1 activities) used to construct the Management Scheme
- d. any new activities being undertaken within the European marine sites within or outside of the jurisdiction of the Relevant Authority.

Where there is a change in management, or in light of further information, the impact of the activities would be reviewed by ASERA and re-assessed by Natural England and the Countryside Council for Wales, where relevant. Management options may be reviewed in the light of revised advice from the countryside agencies.

Discussion and reporting on progress of the Management Scheme, monitoring and actions will take place on a regular basis at ASERA's bi-annual Management Group Meetings. The ASERA annual report will formally summarise the progress of the Relevant Authorities as indicated by their annual reporting responses. This will be presented each year at the ASERA Annual General Meeting (AGM).

ASERA will review the Management Scheme for the EMS every 3 years. Following each review, a report will be compiled and published on the [ASERA website](#).

Glossary

ABP: Association of British Ports

Advisory Group: The body of the representatives from local interests, user groups and conservation groups, formed to advise the management group

ASERA: Association of Severn Estuary Relevant Authorities

ASERA MG: Association of Severn Estuary Relevant Authorities Management Group

ASERA WG: Association of Severn Estuary Relevant Authorities Working Group

BASC: The British Association for Shooting and Conservation

BCC: Bristol City Council

Birds Directive: The abbreviated term of Council Directive 79/409/EEC of 1979 on the Conservation of Wild Birds

BW: Bristol Water Plc

BWw: British Waterways

CC: Cardiff County Council

CCW: Countryside Council for Wales

CHA: Cardiff Harbour Authority

Competent Authority: Any Minister, government department, public or statutory undertaker, public body or person holding a public office that exercises legislative powers

Conservation objective: A statement of the nature conservation aspirations for a site, expressed in terms of the favourable condition that we wish to see the species and/or habitats for which the site has been selected to attain. Conservation objectives for European marine sites relate to the aims of the Habitats Directive

CSO: Combined Sewer Overflows

C&WIDB: Caldicot and Wentlooge Internal Drainage Board

DETR: Department of Environment Transport and Regions

D&S IFCA: Devon and Severn Inshore Fisheries and Conservation Authority

EA: Environment Agency

EAW: Environment Agency Wales

EU: European Union

European marine sites: A European site which consists of, or in so far as it consists of, areas covered intermittently or continuously by seawater

European site: A classified SPA, designated SAC, site of Community importance (a site selected as a candidate SAC, adopted by the European Commission but not yet designated), a candidate SAC (in England only) or a site hosting a priority species in respect of which Article 5 of the Habitats directive applies

Favourable condition: The condition represented by the achievement of the conservation objectives, in other words the desired condition for a designated habitat or a species on an individual site

Favourable conservation status (FCS): A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat or species are not adversely affecting its distribution, abundance, structure or function throughout the EC in the long term. The condition in which the habitat or species is capable of sustaining itself on a long-term basis

FRMS: Flood Risk Management Strategy

FoDDC: Forest of Dean District Council

GCC: Gloucestershire County Council

GHT: Gloucester Harbour Trustees:

Habitat: The place in which a plant or animal lives

Habitats Directive: The abbreviated term of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora. This Directive has been recently revised and is now referred to as The Conservation of Habitats and Species Regulations 2010 (SI No.2010/40). It is the aim of this Directive to promote the conservation of certain habitats and species within the European Union

Habitats Regulations: The Conservation (Natural Habitats &c.) Regulations 1994. This Directive has been revised and is now referred to as The Conservation of Habitats and Species Regulations 2010 (SI No.2010/40)

HRA: Habitat Regulation Assessment

IDB: Internal Drainage Board

Interest feature: A natural or semi-natural feature for which a European site has been selected. This includes any Habitats Directive Annex I habitat, or any Annex II species and any population of a bird species for which an SPA has been designated under the Birds Directive

JNCC: Joint Nature Conservation Committee

LA IDB: Lower Axe Internal Drainage Board

LB IDB: Lower Brue Internal Drainage Board

LS IDB: Lower Severn Internal Drainage Board

LPAs: Local Planning Authority

Maintain: The action required for an interest feature when it is considered to be in favourable condition

MCC: Monmouthshire County Council

Management group: The body of Relevant Authorities formed to manage the European marine sites

Management Scheme: The framework established by the Relevant Authorities at a European marine sites under which their functions are exercised to secure, in relation to that site, compliance with the requirements of the Habitats Directive

MCA: Marine Coastguard Agency

MHWM: Mean High Water Mark

NE: Natural England

NCC: Newport City Council

NHC: Newport Harbour Commissioners

NNR: National Nature Reserve

NSC: North Somerset Council

NS IDB: North Somerset Internal Drainage Board

Operations which may cause deterioration or disturbance: Any activity or operation taking place within, adjacent to, or remote from a European marine sites that has the potential to cause

deterioration to the natural habitats for which the site was designated, or disturbance to the species and its habitats for which the site was designated

P IDB: Parrett Internal Drainage Board

Plan or project: Any operation that is within a Competent Authority's (including Relevant Authorities) function to control, or over which a Competent Authority (including Relevant Authorities) has a statutory function to decide on applications for consents, authorisations, licences or permissions. There is no generally accepted definition of the term "plan or project". This definition may be subject to review and may require further discussion in the context of developing a Management Scheme for the Severn Estuary SPA

PoB: Port of Bristol

Ramsar: Site designated under the 1971 Ramsar Convention as a wetland of international importance

RA: Relevant Authority: The specific Competent Authority which has powers or functions which have, or could have, an impact on the marine environment, or adjacent to, a European marine site

ROW: Rights of Way

RYA: Royal Yachting Association

SAC: Special Area of Conservation.

SCC: Somerset County Council

SDC: Somerset Drainage Consortium

SEP: Severn Estuary Partnership

SGC: South Gloucestershire County Council

SgDC: Sedgemoor District Council

SMP: Shoreline Management Plan

SPA: Special Protection Area for birds

SSSI: Site of Special Scientific Interest

StDC: Stroud District Council

THLS: Trinity House Lighthouse Services

Supporting Habitats: The key habitats within the European marine sites necessary to support the interest feature

TBPC: The Bristol Port Company

VoGCC: Vale of Glamorgan County Council

WM IDB: West Mendip Internal Drainage Board

WSM STW: Weston-Super-Mare Sewage Treatment Works

WW: Wessex Water

WW-DC: Welsh Water / Dwr Cymru

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The Conservation of Habitats and Species Regulations 2010 (the “Habitats Regulations”) (SI No. 2010/490)

The Offshore Marine Conservation (Natural Habitats, &c.) (Amendment) Regulations 2010 (SI No. 2010/491)

Appendices:

Appendix 1 - Legislative Background:

The European designated sites of the Severn Estuary are protected by law as part of the UK Government's commitment to delivering a network of sites of conservation and biodiversity importance and in compliance with UK's obligations under the EU treaty.

The Habitats and Birds Directives, and Regulations (SACs and SPAs)

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, known as the 'Habitats Directive', and Council Directive 2009/147/EEC on the Conservation of Wild Birds, known as the 'Birds Directive', are part of a series of conservation instruments and conventions which have developed agreed international action for nature conservation.

The Habitats Directive aims to 'contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of member states to which the Treaty applies', and also to 'take account of economic, social and cultural requirements and regional and local characteristics'. 'Measures taken pursuant to this Directive shall be designated to maintain or restore, at favourable condition status, natural habitats and species of wild fauna and flora of Community interest.'

The Birds Directive aims to protect wild birds and their habitats within the European Union, especially migratory birds and those considered rare or vulnerable.

The Habitats and Birds Directives include requirements for the designation of sites for conservation. In the case of the Habitats Directive these are Special Areas of Conservation (SACs) which support certain natural habitats or species, and in the Birds Directive, Special Protection Areas (SPAs) which support wild birds of European Union significance. SACs and SPAs form a network of conservation areas across Europe, known as Natura 2000.

The Habitats and Birds directives are transposed into UK legislation by the "The Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") (SI No. 2010/490)" and "The Offshore Marine Conservation (Natural Habitats, &c.) (Amendment) Regulations 2010 (SI No. 2010/491)". Hereafter referred to as the 'Habitats Regulations'. These Regulations include various provisions for the designation, safeguard and management of SACs and SPAs, which are referred to in the Habitats Regulation as 'European sites'. Where European sites include subtidal and/or intertidal areas they are referred to as European marine sites. .

The Convention on Wetlands of International Importance (Ramsar sites)

The Convention on Wetlands of International Importance was finalised at a conference of countries concerned about wetland and waterfowl conservation in Ramsar, Iran in 1971. The broad objectives of the convention are to stem and reverse the loss and progressive encroachment on wetlands, now and in the future, including through the designation of Ramsar sites. An area can qualify as a Ramsar site for its representation of a wetland, the plant or animal species that it supports, and for its role in supporting internationally important waterfowl. Interest features are identified with these criteria. Ramsar sites are often coincident with European sites, particularly SPAs.

UK Government policy states that Ramsar sites are to be treated in the same way as European sites although they are not covered by the Habitats and Birds Directives or Habitats Regulations.

The Severn Estuary is a designated Ramsar site.

Appendix 2 - Summary of Notified features of each designation and the interrelationship between them

Feature	SAC	SPA	Ramsar Site	SSSI (Nationally important feature)
Estuary	Yes	<i>Supporting habitat to designated bird interests</i>	Yes	(Yes)
Subtidal sandbanks	Yes	No – outside boundary of SPA	No – outside boundary of Ramsar Site	<i>No – outside boundary of SSSI</i>
Intertidal Mud and Sand	Yes	<i>Supporting habitat to designated bird interests</i>	<i>Component of Ramsar “estuaries” feature and supporting habitat to designated bird interests</i>	Yes
Atlantic salt meadow / salt marshes	Yes	<i>Supporting habitat to designated bird interests</i>	<i>Component of Ramsar “estuaries” feature and supporting habitat to designated bird interests</i>	Yes
Reefs	Yes	No	<i>Intertidal Sabellaria contiguous with subtidal reefs is a component of the hard substrates subfeature of the Ramsar “estuaries” feature</i>	No – outside boundary of SSSI
Migratory fish (river and sea lamprey and twaite shad)	Yes	No	Yes	(Yes)
Migratory fish (salmon, eel, sea trout and Allis Shad)	<i>Part of notable species sub-feature of estuary feature</i>	No	Yes	(Yes)
Assemblage of fish species (>100 species)	<i>Notable species sub-feature of estuary feature</i>	No	<i>Notable species sub-feature of estuary feature</i>	(Yes)
Internationally important populations of migratory bird species	<i>Notable species sub-feature of estuary feature</i>	Yes	Yes Internationally important populations of waterfowl	Yes
Internationally important populations of wintering bird species	<i>Notable species sub-feature of estuary feature</i>	Yes		Yes
Assemblage of nationally important populations of waterfowl	<i>Notable species sub-feature of estuary feature</i>	Yes	Yes	Yes
Hard substrate habitats (Rocky shores)	<i>Notable species sub-feature of estuary feature</i>	<i>Supporting habitat to designated bird interests</i>	<i>Component of Ramsar “estuaries” feature and supporting habitat to designated bird interests</i>	Yes
Freshwater grazing marsh / Neutral grassland	No	<i>Supporting habitat to designated bird interests within SPA but outside European marine sites and therefore not addressed in this Regulation 33 advice document*</i>		Yes (currently England only)

*This table is taken from the Natural England and Countryside Council for Wales’ advice given under Regulation 33(2)(a) of the Conservation (Natural Habitats &c.) Regulations 1994, as amended

Note: This table includes features of national importance for which the Severn Estuary has been designated as a Site of Special Scientific Interest (SSSI) but which form an intrinsic part of the Severn ecosystem and contribute to the overarching “estuary” feature of the SAC and Ramsar Site) and that therefore need to be considered by the Management Scheme.


Consultation Draft

Appendix 3 - Table of Activities undertaken by each Relevant Authority:

Matrix of activities for Relevant Authorities in 2004 and 2010

Relevant Authorities Responsibilities:

Boxes filled with this symbol indicate where a 2009 pro-forma has been completed and returned to ASERA.

Boxes filled with this symbol  indicate where a pro-forma was completed for this activity and RA in 2004, this activity no longer takes place.

Boxes filled with this symbol indicate where no pro-forma was completed by this RA in 2009, their 2004 proforma has been used instead.

[illegible]

Appendix 4 - Summary descriptions of nature, locations, and current management of activities

There are many activities in this table which come under the category of a 'Plan or Project'. Nevertheless, because these activities have been identified by the Relevant Authorities as taking place within the Severn Estuary European marine sites, they have been included within ASERA's Management Scheme.

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
RECREATION ACTIVITIES			
<p><u>Airborne sports</u></p> <p>This activity covers the informal use of mainly beaches for kite flying, kite surfing, para-motoring, model aircraft flying. While a component of these activities is linked with "land based recreation" it is the potential for the airborne component to disturb birds that sets these activities apart.</p> <p>(Note: Any formalised arrangements for the running and promotion of these activities would be expected to be subject to planning and consenting arrangements. They would therefore be 'Plans and Projects' and would require a Habitat Regulation Assessment (HRA) under the Habitats Regulations rather than action under this Management Scheme.)</p> <p><i>Linked activities : Land based recreation</i></p>	<p>Mechanism: Noise, Visual Presence</p> <p>Potential impact: Disturbance to feeding and roosting birds in winter/passage, but impact dependent upon location and time of year.</p>	<p>Location: Local. This is a restricted activity within the estuary with the key area identified as the beaches of N.Somerset /Sedgemoor.</p> <p>Key Concerns: The potential for bird disturbance and uncertainty about the impact of the current levels of activity.</p> <p>Management: None at present.</p>	<p>NSC, SGC, SDC</p> <p>Relevant RA dept: Recreation, Property, Leisure and Tourism, Environment, Planning.</p>
<p><u>Land based recreation</u></p> <p>This activity includes many forms of informal recreation occurring on beach areas and Rights of Way (e.g. Severn Way) within or adjacent to the estuary (beach use, walking, bird watching, dog walking, cycling, horse riding, sand yachting) and some specific facilities immediately adjacent to the estuary e.g. golf courses.</p> <p>It also takes account of some motorised vehicle access to beach and foreshore areas and seasonal beach car parking.</p> <p>(Note: Any planned and formalised new facilities would require consents and authorisations. They would therefore be 'Plans and Projects' and would require a HRA under the Habitats Regulations rather than action under this</p>	<p>Mechanism: Abrasion, Noise, Visual Presence</p> <p>Potential impact: 1) Damage to habitats from trampling. 2) Disturbance to feeding and roosting birds in winter/passage. Birds are highly sensitive to disturbance from people movement, land yachting/motor cycling/hovercraft etc. Impact dependent upon duration of activity, location and time of year. 3) Litter, pollution damaging habitats and birds. Birds may become entangled/ingest plastic). 4) The</p>	<p>Location: These are widespread activities with RAs identifying high levels of use particularly close to urban centres and at key beach/resort locations at Burnham, Berrow, Brean, Cardiff, Newport and Penarth but with significant levels of activity occurring throughout and adjacent to the EMS on the Public Rights of Way (ROW) network.</p> <p>Key Concerns: physical impacts on habitats and disturbance of birds, particularly at key roosting and feeding areas, on which research is required.</p> <p>In England there is some encouragement of these activities through ROW improvement plans and promotion initiatives and but there is little monitoring of</p>	<p>EA, NE, BWw, CHA, GCC, NSC, SCC, SGC, VoGCC, FoDDC, SgDC, StDC, BCC, CC, NCC,</p> <p>Relevant RA dept: Planning (Licences and Consents), Recreation, Leisure and Tourism, Environment (ecology), Property.</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p>Management Scheme) Coastal Access Initiative The Severn Estuary section of the All Wales coastal path is currently (2011) proposed in the vicinity of the EMS. A similar initiative has been proposed for the Severn Estuary in England. These initiatives are ‘projects’ and subject to HRA. An HRA is being carried out for the welsh proposals. In England the path has yet to be initiated but will be subject to HRA if it goes ahead.</p> <p><i>Linked activities :</i> <i>Motor sports events - covered by “events and festivals” Associated infrastructure e.g. car parks management - covered by “Property and estate management “</i> <i>Grazing – impacts on practical management of sites (stock grazing, dogs)</i></p>	<p>presence of people, dogs and litter reducing the willingness of landowners to graze saltmarsh, leading to a decline in its condition</p>	<p>either levels of use or nature/scale of impacts Management: In England there is some management and control through planning, bylaws/seasonal wardens. In Wales there is little management control other than at Newport Wetlands reserve.</p>	
<p><u>Water based recreation</u> This activity covers recreational boating, canoeing, jet skiing, windsurfing, waterskiing, sea-fishing from boats, and swimming. (Note :Any planned and formalised new facilities would require consents and authorisations. They would therefore be ‘Plans and Projects’ and would require a HRA under the Habitats Regulations rather than action under this Management Scheme) <i>Linked activities :</i> <i>Associated infrastructure e.g. slipways is covered by “Property and estate management “ and “Anchoring (recreational)” and “Moorings”</i></p>	<p>Mechanism: Abrasion, Noise, Visual presence, introduction of non-synthetic materials Potential impact: 1) Disturbance to feeding and roosting birds in winter/passage. Birds can be sensitive to water based recreation and there can also be disturbance/damage if boat users go ashore in certain locations. Impact is dependent upon location and timing of activity 2) Possible erosion/damage of habitats. 3) Possible contamination of mud/sand sediments. 4) Litter and pollution damaging habitats and birds. Birds may become entangled/ingest plastic). 5) Introduction of synthetic materials.</p>	<p>Location: Widely reported activity by LPAs and harbour authorities with principle relatively high use areas identified as Rhymney estuary, Newport, Chepstow, Cardiff Bay, Bristol River Avon, Portishead, sailing clubs, Port of Bridgwater, Sharpness, Burnham, Berrow , Brean, Lydney, Beachley, Thornbury. Key Concerns: Physical impacts on habitats and disturbance of birds, particularly at key roosting and feeding areas, from noisy (motorised activities particularly unauthorised jet ski use) on which research is required. Management: There is some regulation through control of slipways and launch points, landing permits and resort officers, codes of practice, role of clubs and associations e.g. RYA and via Harbour authorities through bylaws, licences, codes and safety guidelines. There is some promotion through advice on availability of facilities and through EA strategy for water based recreation 2006-2011.</p>	<p>EA, BWw, ABP (Cardiff), CHA, GHT, NHC, PoB, TBPC, MCC, NSC, SCC, SGC, VoGCC, FoDDC, SgDC, BCC, CC, NCC, Relevant RA dept: Recreation, Leisure and Tourism, Operational (Harbour Master, Marina Manager), Planning (Licences and Consents), Environment (ecology), Property.</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p><u>Events/Festivals</u></p> <p>This activity covers all organised events including public beach based events, angling events, sail club events/races, water ski and power boat races, music festivals, firework displays.</p> <p>(Note :Any large planned event would require consents and authorisations. They would therefore be 'Plans and Projects' and would require a HRA under the Habitats Regulations rather than action under this Management Scheme)</p>	<p>Mechanism: Abrasion, Noise, Visual presence</p> <p>Potential impact: 1)Damage to habitats from trampling. 2)disturbance to feeding and roosting birds in winter/passage. Although exposure is low in some areas as long as events do not extend/ take place into the winter season (Oct-March). 3) Litter and pollution damaging habitats and birds. Birds may become entangled/ingest plastic).</p>	<p>Location: RAs have identified; numerous small single day events and a few large ones around the estuary. Although large events are often linked to centres of population (Newport, Cardiff, Bristol) other events such as fishing competitions and charity events may take place at numerous locations</p> <p>Key Concerns: Physical impacts on habitats and disturbance of birds, particularly at key roosting and feeding areas,</p> <p>Management: LPAs have a licensing role for large events; LPAs have a promotional role for certain activities; LPAs have partnerships with stakeholders and parish councils to run events; Regulation is possible through bylaws, licensing and events officers and through clubs; Monitoring of events and impacts limited; Harbour authorities have range of approval/ management systems including bylaws, codes of conduct, requirement for an environmental statement, and water use zoning strategies.</p>	<p>ABP (Cardiff), CHA, GHT, NHC, PoB, GCC, MCC, NSC, SGC, VoGCC, FoDDC, SgDC, CC, NCC,</p> <p>Relevant RA dept: Planning (Licences and Consents), Environment (waste), Recreation, Leisure and Tourism, Communications (PR, Marketing).</p>
<p><u>Wildfowling</u></p> <p>This activity covers shooting, rough shooting by owners or others authorised by them</p> <p>Wildfowling by clubs is a 'project' regulated by licence either consented directly or via leases issued by Natural England, the Crown Estate (usually involving BASC).</p> <p>It is therefore a Project (F1) and requires an HRA under the Habitats Regulations</p>	<p>Mechanism: Visual presence, noise, abrasion, selective extraction of species.</p> <p>Potential impact: 1) Presence of wildfowling could disturb birds. 2) Potential for trampling of habitat. 3) Litter damaging habitats and birds may become entangled/ingest plastic)</p>	<p>Location: Rough shooting by owners or others authorised by them can take place along most of the Estuary shore.</p> <p>Key Concerns: Disturbance of birds, particularly at key roosting and feeding areas. Rough shooting by non club members is uncontrolled and unpredictable. No details of how much or where this takes place, but clear from discussions with land owners and wildfowling clubs that it is occurring.</p> <p>Management: Shooting by club members controlled though licence. Some policing of rough shooting also done by wildfowling clubs and BASC.</p> <p>In Wales there are 3 clubs with leases from Crown Estates and CCW. Peterstone wildfowl refuge is policed by Wentlooge Wildfowling. At Newport Wetlands CCW</p>	<p>CCW, NE,</p> <p>Relevant RA dept: Property, Environment (ecology, conservation), Recreation, Leisure and Tourism, Health and Safety, Licensing and Permits.</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
		control shooting in front of the Reserve.	
ANGLING RELATED ACTIVITIES			
<p><u>Angling (recreational)</u></p> <p>This activity covers informal unregulated angling from land and includes some events/competitions. i.e. that part which is not covered by required consents under Wildlife and Countryside Act to landowners. The later are 'projects' and require an HRA under the Habitats Regulations <i>Linked to "water based recreation" which covers angling from charter or private boats</i></p>	<p>Mechanism: Visual presence, introduction of non-synthetic materials, selective extraction of species</p> <p>Potential impact: 1) Presence of anglers could disturb birds. 2) Potential for trampling of habitat and 3) Litter damaging habitats and birds. Birds may become entangled/ingest plastic)</p>	<p>Location: This is a widespread ad hoc activity throughout the estuary</p> <p>Key Concerns: physical impacts on habitats and disturbance of birds, particularly at key roosting and feeding areas particularly from large angling events/competitions.</p> <p>Management: There is little current management or monitoring other than at Newport wetlands.</p>	<p>D&S IFCA, CCW, NE, EA, BWw, ABP (Cardiff and Newport), CHA, NHC, MCC, NSC, SGC, SgDC, CC, NCC, (D&S IFCA?)</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Operational (Harbour Master, Marina Manager), Planning (Licensing and Consents), Environment.</p>
<p><u>Bait digging</u></p> <p>This activity covers informal unregulated bait digging. Bait species (Lugworms <i>Arenicola</i> spp. and rag worms <i>Nereis</i> and <i>Nephtys</i> spp) are traditionally collected by people digging up the lower shore (usually with a fork or spade) to expose the worm beds.</p> <p>Commercial bait digging would require authorisation and would therefore be a 'project' requiring an HRA under the Habitats Regulations rather than action under this Management Scheme <i>Linked activities: Land based recreation</i></p>	<p>Mechanism: Visual presence, introduction of synthetic and non-synthetic materials, selective extraction of species.</p> <p>Potential impact: Presence of bait diggers could disturb birds, dependant on time and location.</p>	<p>Location: A restricted activity within the EMS but can have a winter peak when cod stocks are high. Key areas are Burnham, Brean, Berrow</p> <p>Key Concerns: Slightly different methods are used by different bait collectors, commercial and experienced local bait diggers tend to work more efficiently over large areas. They also backfill their trenches, thereby minimising the impacts upon the infaunal habitat and increasing the rate of recovery. Occasional anglers who are usually less experienced or well informed tend to dig numerous scattered holes and tend to leave them open with mounds of spoil adjacent to them. Evaluation in Wales in 1990s determined no significant impact</p> <p>Management: None at present.</p>	<p>CCW, NE NHC, SgDC,</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Planning (Licensing and Consents), Environment (ecology, fisheries).</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p><u>Eel and elver fishing</u></p> <p>This activity covers informal unregulated fishing and trapping of eels and elvers</p> <p>There are commercial elver fisheries on the River Wye. EA licences are required for eel fishing along part of both the Welsh and English coast. These are 'projects' requiring HRA under the Habitats Regulations</p>	<p>Mechanism: Abrasion, Noise, Visual presence</p> <p>Potential impact: 1) Disturbance to habitats from trampling and 2) Disturbance to feeding and roosting birds, particularly from access to fishing areas. 3) Over exploitation of stock</p>	<p>Location: Elver and el fishing can occur potentially at any gout, pill or other outfall on the estuary.</p> <p>Key Concerns: physical impacts on habitats and disturbance of birds, particularly at key roosting and feeding areas</p> <p>Management: None at present.</p>	CCW, NE, EA, BWw, CHA, CC, NCC, (D&S IFCA?)
<p><u>Fishing (Commercial)</u></p> <p>This 'activity' includes a variety of commercial fishing occurring in the estuary, including the Horse Mussel fishery, draft, seine, larval, dip, gill and stake netting and putchers. Commercial fishing requires permission from the EA or others and is therefore a 'project' (F1) requiring an HRA under the Habitats Regulations rather than action under this Management Scheme.</p>	<p>Mechanism: Noise, Visual Presence</p> <p>Potential impact: 1) Birds sensitive to encroachment within 200m. 2) loss of fish features</p>	<p>Location: This is a restricted 'activity' within the estuary. Locations recorded by Competent Authority</p> <p>Key Concerns: loss and damage to fish features and disturbance of birds, particularly at key roosting and feeding areas</p> <p>Management: covered by licence</p>	EA, NE, SGC, (D&S IFCA?)
BOAT/SHIP RELATED (BOTH COMMERCIAL AND RECREATIONAL) ACTIVITIES			
<p><u>Anchoring</u></p> <p>This activity covers the temporary fixing of boats or ships to the sea bed using anchors</p> <p>The activity is composed of two main parts:</p> <ul style="list-style-type: none"> - Anchoring of commercial vessels awaiting suitable conditions for entry to port - Anchoring of recreational vessels <p><i>Linked to "Moorings"</i></p>	<p>Mechanism: Abrasion, Noise, Visual presence</p> <p>Potential impact: 1) Erosion and increased rate of loss of saltmarsh and mud/sandflat habitats. 2) Potential disturbance to birds at some locations. 3) there is a possibility that some components of this activity could detrimentally affect the <i>Sabellaria</i> reef feature of the SAC which would be highly vulnerable to abrasion impact but there is currently no indication that this is occurring at a significant frequency</p>	<p>Location: This activity occurs at many locations within the Severn Estuary although the anchoring of larger vessels associated with port traffic is more restricted largely taking place within defined anchorages. However recreational anchoring and emergency anchoring can occur throughout the estuary, subject to prohibited areas (shown on admiralty charts).</p> <p>Key Concerns: physical impacts on habitats and disturbance of birds, particularly at key roosting and feeding areas.</p> <p>Management: Ports and Harbours in the estuary have their own management measures and byelaws, which include identifying areas where anchoring is prohibited for the purposes of navigational safety. In areas of the estuary outside the statutory harbour areas the Maritime</p>	ASERA ABP (Cardiff), BWw, EA, GHT, NHC, PoB, TBPC, NSC, FoDDC, SDC, CC, THLS (D&S IFCA?)

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
		and Coastguard Agency (MCA) is responsible for the management of anchoring.	
<p><u>Boat repairs (recreational)</u></p> <p>This activity covers locations where individual boat owners undertake maintenance where boats are moored e.g. yacht/ sailing clubs and marinas</p>	<p>Mechanism: Introduction of synthetic and non-synthetic materials</p> <p>Potential impact: The main potential impact is through toxic contamination of the water body by cleaning fluids, oil, paint etc. These compounds can have deleterious effects on the bird, fish and biotope features.</p>	<p>Location: This activity is poorly reported in the returned proformas – however it is presumed that repairs are being undertaken in existing locations where recreational boats are moored. (e.g. Cardiff and Portishead Marinas) It is believed that there may be some small informal yards operating.</p> <p>Key Concerns: contamination of the water body and potential impacts on birds, fish and biotopes.</p> <p>Management: This activity is not currently managed by Relevant Authorities. However, this may be a perceived issue that is likely to already be addressed through RYA and other codes of conduct and related legislation.</p>	<p>EA, CHA, NSC, CC, CCW, NE</p> <p>Relevant RA dept: Operational (Harbour Master, Marina Manager), Recreation, Leisure and Tourism, Planning (Licensing and Consents), Environment (waste).</p>
<p><u>Boat repairs (commercial)</u></p> <p>This activity covers small informal yards where boats are repaired as part of a business (rather than individuals undertaking maintenance on their own boats in marinas etc)</p> <p>:Any planned and formalised new facilities require planning or other permission and is therefore a ‘project’ requiring an HRA under the Habitats Regulations rather than action under this Management Scheme.</p>	<p>Mechanism: Introduction of synthetic and non-synthetic materials</p> <p>Potential impact: The main potential for an impact is through toxic contamination of the water body by cleaning fluids, oil, paint etc. These compounds can have deleterious effects on the designated sub features of the Severn Estuary.</p>	<p>Location: There are currently no commercial boat yards reported by the RAs but it is believed that there are some small commercial yards operating on or directly linked to some of the feeding rivers e.g. on the lower River Ely at Cardiff.</p> <p>Key Concerns: A commercial boatyard would require a number of consents or permissions and should therefore be regarded as a plan or project</p> <p>Management: None at present</p>	<p>EA, CHA, NSC, CC, CCW, NE</p> <p>Relevant RA dept: Operational (Harbour Master, Marina Manager), Recreation, Leisure and Tourism, Planning (Licensing and Consents), Environment (waste).</p>
<p><u>Moorings</u></p> <p>This activity covers the tying up of boats to permanent fixed points</p> <p>The activity is composed of two parts:</p> <ul style="list-style-type: none"> - Mooring of commercial vessels at dockside in ports - Mooring of recreational vessels to river bed attachments/buoys/pontoons at existing club facilities in inlets and marinas <p>Any new mooring locations or expansion of provision at existing facilities require planning or other permission and are</p>	<p>Mechanism: Abrasion, Noise</p> <p>Potential impact: 1) Potential risk to intertidal habitats. 2) disturbance to birds, particularly from moorings and large numbers of boat movements near roosts during winter/passage</p>	<p>Location: a number of marinas with moorings for recreational craft are located around the estuary (including Portishead, Gloucester, Penarth and Cardiff Bay) and moorings are also found within the estuary’s many rivers and pills.</p> <p>Key Concerns: Potential risk to intertidal habitats and overwintering and passage birds from moorings and boat movements near roosts. Existing moorings are not considered to be having an impact, with the possible the exception of moorings in North Somerset Council’s area of jurisdiction where impacts are unknown.</p>	<p>ABP (Cardiff), CHA, PoB, TBPC,</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Operational (Harbour Master, Marina Manager), Planning, Environment (ecology), Property</p>

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therefore 'projects' requiring an HRA under the Habitats Regulations rather than action under this Management Scheme.		Management: Commercial port moorings and any recreational moorings within port or harbour authority jurisdiction are controlled by the ports through bylaws and licensing (safety to navigating traffic as prime consideration).	
<p><u>Navigation</u></p> <p>This activity covers only the movement of vessels (both commercial and recreational) through the estuary and the maintenance of marker buoys/ structures for navigational safety. The activity of navigation includes clearing of water borne rubbish that could impair navigation.</p> <p>The provision of new navigational aids would require authorisations. It would therefore be a 'plan or project' and would require a HRA under the Habitats Regulations rather than action under this Management Scheme</p> <p><i>Linked to "commercial shipping/ cargo operations", "Anchoring" (commercial and recreational) and "Moorings"</i></p>	<p>Mechanism: Noise, Visual Presence</p> <p>Potential impact: Vessels in performance of their normal activity (proceeding from A to B) will introduce to the environment; noise and vibration in the water column, and also visual presence. This could disturb fish features, and in winter/passage periods also bird features. The activity however is restricted to limited areas of safe passage and has therefore, over the years established its own environment.</p>	<p>Location: Described in proforma</p> <p>Key Concerns: No known impacts on the EMS have been identified</p> <p>Management: This activity is managed by the port and harbour authorities, MCA and Trinity House - through provision of pilotage services, vessel traffic management systems, navigation aids, advice and codes of practice and use of bylaws where required.</p>	<p>BWw, ABP (Cardiff), GHT, NHC, PoB, TBPC, THLS,</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Operations (Harbour Master, Marina Manager), Environment (ecology), Planning, Property.</p>
PORT RELATED – COMMERCIAL ACTIVITIES			
<p><u>Commercial shipping/ cargo operations</u></p> <p>This activity covers only the transfer of goods at portside</p> <p><i>Linked to "Navigation" which covers the actual movement of ships through estuary</i></p>	<p>Mechanism: Abrasion, Noise, Visual presence, introduction of non-synthetic materials</p> <p>Potential impact: 1) Disturbance to habitats and 2) potential disturbance to birds depending on the time of year.</p>	<p>Location: Currently, all cargo operations occur within enclosed (albeit connected) docks. This activity takes place largely outside the EMS.</p> <p>Key Concerns: There is the potential for disturbance to habitats and to birds (dependant on the time of year).</p> <p>Management: The management of this activity is largely by the ports under existing established safety plans and codes.</p>	<p>BWw, ABP (Cardiff and Newport), GHT, NHC, PoB, TBPC, THLS,</p> <p>Relevant RA dept: Operational (Harbour Master, Marina Manager), Environment (ecology, waste).</p>
<p><u>Maintenance dredging</u></p> <p>Maintenance dredging involves the regular removal of accumulated sediments from navigation channels, docks and waterways.</p>	<p>Mechanism: Abrasion, Selective abstraction of species, Noise, Visual Presence</p> <p>Potential impact: Maintenance dredging and the disposal of dredged</p>	<p>Location: The dredging and disposal sites are recorded. These are mostly at the ports at Cardiff, Bristol and Gloucester. At Newport maintenance dredging takes place outside but adjacent to the EMS.</p> <p>Key Concerns: Concerns regarding maintenance</p>	<p>ABP (Cardiff and Newport), BWw, GHT, EA?, NHC, TBPC,</p> <p>Relevant RA dept: Planning (Licences and Permits),</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p>Maintenance dredging and disposal operations are highly regulated. Where this is licensed under the Marine and Coastal Access Act 2009 or under local port and harbour Acts the Government considers maintenance dredging proposals to be 'Plans and Projects' which require a HRA under the Habitats Regulations rather than action under this Management Scheme.)</p>	<p>material can potentially disturb birds and their intertidal habitats by causing the following possible impacts;1) Removal of benthic animals at dredge site and smothering of benthos at or near the disposal site (may result in selective extraction of species). 2) Increased suspended sediments and siltation with potential impacts for fish , 3) Release of contaminants (such as heavy metals, organic matter and nutrients) again with potential impacts for benthos, fish and birds 4) Removal of sediment from the estuary sediment transport system (depending on type and location of disposal site) with potential impacts for the habitat features 5)Visual presence and noise disturbance to birds and fish features</p>	<p>dredging are uncommon as maintenance dredging and disposal licences generally only permit the removal of 'recently' deposited material on which a chemical analysis has been undertaken. Temporary reduced water quality remains a potential impact, but key concerns remain in relation to disturbance to migratory fish. This would take place where the dredge site is within a restricted area such as a river mouth (and only largely during sensitive times of the migratory season).</p> <p>The impacts are unknown but potential impacts may be taking place on the migratory fish features due to changes in water quality from dredging activities.</p> <p>Management: In English and Welsh waters this activity is largely regulated by consents and licences, but this does not cover all types of maintenance dredging. Licensed activities are therefore a plan covered by HRA.</p> <p>In England a maintenance dredging protocol has been developed which allows the effects of maintenance dredging on EMS to be assessed without placing a disproportionate burden on operators and regulators seeking or giving approval for maintenance dredging activities in England.</p> <p>In Welsh waters it is partially regulated by licences and protocols.</p>	<p>Operational (Harbour Master), Environment (waste), Property.</p>
<p><u>Discharge/exchange of water ballast</u></p> <p>This activity covers the discharge of ballast water from ships. Although it mostly takes place outside EMS potential impacts are via water connections</p>	<p>Mechanism: Introduction of synthetic and non-synthetic materials, and non-native species</p> <p>Potential impact: 1)The discharge of ballast water from ships can potentially introduce non-native species into the estuary, which may in turn have a range of effects. The majority of non-natives have an undetectable effect, however they can cause the serious deterioration of native marine and</p>	<p>Location: This activity can take place in the estuary, although largely occurs outside the EMS at sea and within enclosed docks</p> <p>Key Concerns: deterioration of native marine and saltmarsh communities</p> <p>Management: The management of this activity is largely by the ports having regard to a framework of guidance from the Maritime and Coastguard Agency (MGN81) and the International Maritime Organisation (IMO)</p>	<p>BWw, ABP (Cardiff and Newport), CHA, GHT, NHC, PoB, TBPC,</p> <p>Relevant RA dept: Operational (Harbour Master), Environment Manager (conservation).</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
	saltmarsh communities. 2)There is also the potential for the release of contaminated waters or sediments during the discharge of ballast waters which can in turn have a deleterious impact on benthos, fish and birds.		
<p><u>Lockgate and dock water management</u></p> <p>This activity covers the management of water levels in the locks of the Severn Estuary Ports and Docks (principally to enable entry and exit of vessels)</p> <p><i>Linked to “Barrage and sluice operations” where relevant to port and Harbour Authority facilities.</i></p>	<p>Mechanism: Noise, introduction of non-synthetic materials</p> <p>Potential impact: potential impact on migrating fish, depending on the time of year and individual species. Exiting water can act as an attraction to migrating fish that may subsequently enter the lock and the enclosed dock system (therefore preventing successful migration).</p>	<p>Location: Severn Estuary Ports and Docks, including Cardiff port, Cardiff Barrage, Newport, Barry, Avonmouth, Portbury, Sharpness, Lydney and Portishead Docks</p> <p>Key Concerns: potential impact on migrating fish, depending on the location, time of year and individual species. It is considered that lock gate and dock water management in the Severn Estuary Ports and Docks is not having a known impact on fish or any EMS features. The locks at Cardiff Bay Barrage are known to be used by salmon. Whilst in the locks, fish are likely to become stressed, nevertheless onward migration is possible. A concern at Cardiff Barrage is that at times of low river there is ‘competition’ for the limited volume of water. Sufficient flow must be provided for the fish passage facility at all times, but in order to maintain bay level whilst also providing boat passage through the barrage via the locks, the allocation of water for fish passage is reduced (See also Barrage and sluice operations)</p> <p>Management: This activity is exempt from EA licensing when undertaken by a harbour authority for navigation purposes and is managed directly by the ports. At Cardiff Barrage, the water allocation arrangement is covered by an Agreement between EAW and CHA. The reduction in flow is thought to have an impact, but it hasn’t been qualified or quantified – so the form of impact is known i.e. fish numbers being attracted to and successfully entering the fish pass will reduce.</p>	<p>EA, BWw, ABP (Cardiff), CHA, GHT, TBPC,</p> <p>Relevant RA dept: Planning (Licences and Consents), Operations (Harbour Master, Marina Manager), Environment (fisheries).</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p><u>Port waste management</u></p> <p>This activity includes the management of all waste materials generated by the port and ship generated waste taken from ships docking at the port</p> <p>This ‘activity’ is highly regulated with port waste management plans being a statutory requirement by the Maritime and Coastguard Agency. It is therefore a ‘project’ requiring an HRA under the Habitats Regulations rather than action under this Management Scheme.</p>	<p>Mechanism: Accidental introduction of synthetic and non-synthetic materials</p> <p>Potential impact: Ship generated wastes, such as litter (garbage) and oil, into the estuary could potentially 1) cause toxic contamination to birds, fish, benthos, 2) damage to habitats through smothering and 3) can have adverse effects on birds as a result of entanglement or ingestion.</p>	<p>Location: Ports, harbours and waterways along the Severn Estuary.</p> <p>Key Concerns: Accidental introduction of hazardous wastes and litter with potential impacts on birds and saltmarsh</p> <p>Management: The management of waste at ports occurs mainly outside the EMS and is highly regulated with waste plans for ship generated waste being a statutory requirement by the Maritime and Coastguard Agency.</p>	<p>BWw, ABP (Cardiff), CHA, PoB, TBPC,</p> <p>Relevant RA dept: Environment (waste), Planning, Critical infrastructure, Licences and Permits, Operations (Harbour Master and Marina Manager).</p>
LAND MANAGEMENT ACTIVITIES			
<p><u>Habitat creation and restoration</u></p> <p>This activity is undertaken by RAs and third parties with landholdings on or adjacent to the estuary or as part of planned programmes to deliver strategic objectives e.g. local or national biodiversity targets in partnership with land owners.</p> <p>These are ‘plans or projects’ requiring an HRA under the Habitats Regulations rather than action under this Management Scheme.</p>	<p>Mechanism: Habitat removal, Noise, Visual Presence, Introduction of synthetic materials</p> <p>Potential impact: 1) Disturbance to habitats from trampling and 2) disturbance to feeding and roosting birds in winter/passage, although low level works are not a significant issue.</p>	<p>Location: Potentially anywhere around the estuary where RAs or third parties have landholdings, or land is part of a strategic plan</p> <p>Key Concerns: Generally new habitat creation is adjacent/outside the EMS and therefore has limited impact on EMS habitats although it may impact on mobile species such as fish and birds – however impacts are likely to be largely positive.</p> <p>Management: Such activity is usually associated with management plans, planning applications and will have multiple approvals involved.</p>	<p>WW-DC, WW, C&W IDB, MCC, NSC, SCC, SGC, SgDC, BCC, CC, NCC,</p> <p>Relevant RA dept: Environment (Ecology, Conservation), Planning (licences and consents), Property.</p>
<p><u>Beach cleaning and tidal debris management</u></p> <p>This activity covers the management of waste accumulations (natural or manmade) within the EMS either washed ashore or deposited by users. It includes regular beach cleaning operations (by hand or by vehicle), removal of accumulations from flood defences structures and one-off events to tackle unexpected flotsam or jetsam items</p> <p>Works which could have impacts on the Severn Estuary SSSI require consent from NE/CCW. This activity should be treated as ‘plans or projects’ requiring an HRA under the</p>	<p>Mechanism: Selective extraction, visual presence, noise</p> <p>Potential impact: Impacts can be both diffused and concentrated and each beach area requires a specific appraisal to inform tailored management. 1) Disturbance to breeding birds. 2) Loss of strandline food supply. 3) Loss of ground stability. 4) damage to habitats, particularly from access to remove</p>	<p>Location: Beach cleaning takes place at varying levels on public beaches around the estuary. Material requiring removal can occur anywhere around the estuary</p> <p>Key Concerns: Regular beach cleaning operations on public beaches includes hand litter picking of manmade debris, removal of strandline vegetation (mixed natural and manmade) and “deep cleaning” of beaches with specialised machines. Tidal debris is also removed from the saltmarsh and flood defence earth banks to prevent smothering and die back of vegetation or physical abrasion damage of the defence. At infrequent intervals</p>	<p>CCW, EA, NSC, SGC, SgDC,</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Environment (ecology, waste), Health and Safety, Incident Planning.</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
Habitats Regulations rather than action under this Management Scheme <i>linked activity Managing unauthorised waste</i>	material. The lack of removal of material can lead to 1) smothering of habitats 2) damage to the flood defences/operation of sluices 3) toxic contamination entering the food chain	specialised operations may be required to remove out of the ordinary debris such as dead farm animals, stranded cetaceans, chemical drums etc. Key issues for the EMS are the methods of cleaning, removal and disposal of waste on or off site which may impact physically directly on habitats and their dependant species or through disturbance. Additionally the intrinsic value of some of the natural waste (e.g. spartina seaweed and woody debris strandlines) means that its removal may also impact on invertebrate and bird populations in particular. Management: This activity is managed as a plan or project.	
<u>Grazing</u> This activity covers unauthorised grazing , for example by horses Grazing is a potentially damaging operation for the Severn Estuary SSSI. Land owners /tenants require consent from CCW/NE under the Wildlife and Countryside Act. It is therefore a project requiring an HRA under the Habitats Regulations rather than action under this Management Scheme <i>Linked to "Practices resulting in agricultural run-off"</i>	Mechanism: Abrasion, selective extraction of species Potential impact: 1)Grazing of previously un-grazed marshes can lead to loss of plant diversity if not sensitively managed. 2)Overgrazing can damage the saltmarsh habitat feature and 3)reduce food resource for birds. 4) Lack of grazing of previously grazed marshes could possibly result in reduced plant diversity. Grazing activity outside the EMS boundary is not likely to lead to significant impact and the recent EA Review of Consents has not identified any significant water quality issues related to agricultural runoff in respect of the estuary designated features	Location: potentially all saltmarsh around the estuary Key Concerns: Grazing of previously ungrazed marshes can lead to loss of plant diversity if not sensitively managed. Overgrazing can damage the saltmarsh feature and reduce food resource for birds. Management: none at present. Authorised grazing managed by consent	CCW, EA, NE, BWw, WW-DC, GCC, MCC, NSC, SGC, SgDC, Relevant RA dept: Planning (Licences and Consents), Environment (Conservation).
Practices resulting in <u>Agricultural run-off</u> This activity covers any farming practices undertaken on RA owned land which may result in the run-off of polluted, nutrient enriched or sediment rich water in to the estuary (via	Mechanism: Mechanism is nutrient input via water discharge at certain points. Changes in nutrient loading, most sensitive intertidal mudflats and sandflats	Location: Activity proformas are largely from RAs with farm holdings adjacent to (but outside of) the EMS. Key Concerns: nutrient enrichment of habitats Management: EA have a regulatory function in respect	CCW, NE, EA, WW-DC, WW, GCC, MCC, SCC, SGC, BCC Relevant RA dept: Environment, Property,

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
hinterland ditch/stream systems).	<p>Potential impact: 1)Enrichment of saltmarshes; 2)Contamination of sediments with knock on impacts on birds, via feeding.</p> <p>The recent EA Review of Consents has not identified any significant water or sediment quality issues related to agricultural runoff in respect of the estuary designated features</p>	of pollution incidents and new farming agricultural waste storage facilities. Regulation of potentially harmful practices is via good agricultural practice in accordance with established Codes of Practice, Nitrate Vulnerable Zones and Cross Compliance requirements and through positive incentives such as Catchment Sensitive Farming, etc.	Estates, legal, Reserves managers/wardens Critical Infrastructure and Planning (drainage), Transport (waterways).
WATER MANAGEMENT ACTIVITIES			
<p><u>Excavation</u></p> <p>This activity covers the creation of new drainage ditches (including new cuts for the improvement of existing drainage systems)</p> <p>Any IDB works within the EMS, or works outside the EMS which could have water borne impacts (releasing contamination or significant changes in flow regimes) within the EMS requires consent and should be regarded as a plan or project.</p> <p><i>Linked to “release of contamination from historic industry” and “water channel maintenance”</i></p>	<p>Mechanism: Noise, Visual Presence</p> <p>Potential impact: 1)Changes in turbidity and flows leading to changes in habitat 2) release of contamination leading to damage to habitats and species.</p>	<p>Location: The works described on the returned activity proformas relate to the work of the EA and IDBs in the estuary hinterland outside the EMS boundary.</p> <p>Key Concerns: release of contamination and changes in flows.</p> <p>Management: None at present</p>	<p>BWw, C&W IDB, LA IDB, LB IDB, LS IDB, NS IDB, P IDB, WM IDB, NSC,</p> <p>Relevant RA dept: Planning (Licences and Consents), Environment (Waste), Critical Infrastructure.</p>
<p><u>Water channel maintenance</u></p> <p>This activity covers the regular management of water courses (vegetation cutting and de-silting)</p>	<p>Mechanism: Abrasion, Noise, Visual Presence</p> <p>Potential impact: The work involved in water channel maintenance causes noise and visual presence. A further mechanism for impact is via the outflows i.e. changes in sediment patterns.</p> <p>There is little scope for direct impact on EMS habitats and species unless contaminated land is involved.</p>	<p>Location: This activity is largely outside EMS boundary</p> <p>Key Concerns: The work involved in water channel maintenance causes noise and visual presence. A further mechanism for impact is via the outflows i.e. changes in sediment patterns.</p> <p>Management: In Wales this work is subject to Consent from CCW as it takes place within the Gwent Levels SSSIs.</p>	<p>C&W IDB, LA IDB, LB IDB, LS IDB, NS IDB, WM IDB,</p> <p>Relevant RA dept: Environment (ecology, conservation), Planning, Critical Infrastructure, Licensing and Permits, Property.</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p><u>Barrage and sluice operation</u></p> <p>This activity covers the management of water by</p> <ul style="list-style-type: none"> - sluice and barrage structures into the estuary - sluices on drainage ditches outside the EMS (principally by IDBs and EA) <p>as part of</p> <ul style="list-style-type: none"> - everyday management of drainage for agriculture - flood risk control measures <p><i>Linked to “Lock and dock water management” in respect of ports and harbour authorities at Cardiff and Newport</i></p>	<p>Mechanism: Introduction of synthetic and non-synthetic materials and physical impact on habitats</p> <p>Potential impact: 1) Disturbance to feeding and roosting birds and migrating fish 2) scouring and disturbance to sediments leading to changes to habitats, and possible short term change in salinity (localised) . 3) Tidal flaps on outfalls – maintenance can cause disturbance to habitats and 4) disturbance to birds if carried out in winter. 5) The sluices in Cardiff Bay are painted with anti-fouling paint with potential impacts for benthos.</p>	<p>Location: At Cardiff Barrage, outfalls operated by the Internal Drainage Boards, Environment Agency and Water companies. Flood prevention structure at Purton Gloucestershire managed by British Waterways.</p> <p>Key Concerns: Using sluice to evacuate water into the estuary can be an issue in respect of possible erosion of habitats seaward of defences if flow is severe and not controlled to protect habitats (e.g. at Purton). Evacuation of water may also be an issue in respect of the migratory fish where close to fish passes (Cardiff Bay Barrage/CHA see Lock and Dock Water Management)</p> <p>Management: operation the responsibility of and controlled by IDBs, EA and CHA in light of land drainage requirements and flood prevention</p>	<p>EA, BWw, C&W IDB, LA IDB, LB IDB, LS IDB, NS IDB, P IDB, WM IDB, CHA,</p> <p>Relevant RA dept: Critical Infrastructure and Planning (waterways), Environment (flooding, ecology).</p>
<p><u>Discharge of waste water</u></p> <p>This activity covers the discharge of waste water from sewage and industrial outfalls to the estuary.</p> <p>It requires a consent (usually with both discharge and content limits and monitoring conditions) from the Environment Agency. It is therefore a plan or project requiring an HRA under the Habitats Regulations rather than action under this Management Scheme.</p>	<p>Mechanism: Introduction of synthetic and non-synthetic materials and physical impact on habitats</p> <p>Potential impact: 1) Possible short and long term (localised) changes to water quality. 2) Scouring and disturbance to sediments leading to changes to habitats</p>	<p>Location: Outfalls at sewage treatment works and industrial locations in many places around the estuary.</p> <p>Key Concerns: Discharges may cause localised impact on habitat in terms of species composition. Discharges into the estuary can also be an issue in respect of possible erosion of habitats if flow is severe and not controlled to protect habitats.</p> <p>Management: EA discharge consenting regime can address any impact to features of importance through the control of content, flow rates, timing and location of discharge.</p>	<p>WW, WW-DC,</p>
<p><u>Highways discharge</u></p> <p><i>This activity includes both direct drainage of surface water from roads and active discharges from road maintenance/ emergency operations</i></p>	<p>Mechanism: Introduction of synthetic and on-synthetic materials</p> <p>Potential impact: Untreated road run-off discharges directly onto habitats and therefore into the food chain. NB: Highways and estates discharges were raised as an issue in the Strategy for the Severn Report, but</p>	<p>Location: Generally there are sea defences around the estuary and therefore this is only an issue where roads drain directly into the estuary i.e. at Bridgewater Bay, Burnham, Weston Super Mare, Clevedon, Portishead, Severn Bridge. On the Welsh coast this is only an issue around Usk.</p> <p>Key Concerns: The recent EA Review of Consents for the Severn Estuary EMSs has not identified any</p>	<p>GCC, MCC, NSC, SCC, SGC, VoGCC, BCC, CC, NCC,</p> <p>Relevant RA dept: Planning (Licences and Consents), Environment (waste), Critical Infrastructure (Highways, Drainage, Flooding, Housing).</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
	realistically all discharges end up in designated water courses, rhines, pills and are covered by a consent. The impacts would be a release of hydrocarbons, lead, particulates and radionuclide's.	significant water or sediment quality issues related to highways discharge. Management: LPAs have statutory duty to provide drainage for safety reasons. Highways Maintenance Operation Manual provides the statutory requirements in respect of highways discharge EA have some regulatory control. RA's have Emergency Plan procedures for spills.	
INFRASTRUCTURAL ACTIVITIES			
<u>Property and estate maintenance</u> This activity includes the maintenance of existing facilities and management of land owned or operated by RAs it covers repair of existing infrastructure but not replacement or provision of new facilities.	Mechanism: Abrasion, Noise, Visual Presence, Introduction of non-synthetic materials Potential impact: Noise from machinery used and presence of people could disturb birds.	Location: Very few of the activities described by RAs on the activity forms lie within the boundary of the EMS. Key Concerns: Noise from machinery used and presence of people could disturb birds. Management: Any works within EMS, or works outside the EMS which could have water borne impacts (pollution or increase in nutrient loading) within the EMS should be regarded as a plan or project - F1.	BWw, WW-DC, WW, ABP (Cardiff), CHA, TBPC, GCC, MCC, NSC, SGC, VoGCC, FoDDC, SgDC, BCC, CC, THLS, Relevant RA dept: Property, Environment (Conservation, Ecology), Planning, Critical Infrastructure.
<u>Outfall maintenance</u> <u>Pipeline maintenance</u> This activity includes the maintenance of all types of outfalls and pipelines in and adjacent to the estuary (including Sewage, Combined Sewer Overflows (CSO), private, domestic and industrial, and surface water discharges)	Mechanism: Abrasion, Noise, Visual Presence, Introduction of non-synthetic materials Potential impact: Disturbance to habitats from trampling and disturbance to feeding and roosting birds in winter/passage.	Location: Sewage and CSO, private - domestic and industrial, and surface water discharges. Key Concerns: Disturbance to habitats from trampling and disturbance to feeding and roosting birds in winter/passage. Management: Any works within EMS, or works outside the EMS which could have water borne impacts (pollution or increase in nutrient loading) within the EMS should be regarded as a plan or project (F1.)	EA, BW, BWw, WW-DC, WW, WM IDB, CHA, TBPC, SGC, Relevant RA dept: Environment (ecology, conservation), Planning, Critical Infrastructure, Licensing and Permits, Incident Planning, Property.
<u>Cable laying, hanging and maintenance</u> This activity includes the installation or maintenance of electricity and telecommunication cables.	Mechanism: Abrasion, Noise, Visual presence, introduction of non-synthetic materials Potential impact: Disturbance to feeding and roosting birds in winter passage. Disturbance to habitat.	Location: To date, this activity has only been reported by the English Relevant Authorities. Key Concerns: Disturbance to habitats from trampling and disturbance to feeding and roosting birds in winter/passage. Management: Any such works within the Severn Estuary EMS should be regarded as a plan or project (F1)	

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<u>Coastal protection and flood defence improvement and maintenance works</u> This activity includes <ul style="list-style-type: none"> - Strategic level planning of coast and flood defences (e.g. SMP, FRMS) - Implementation of capital works – both improvements to existing defences and creation of new defences - Management and maintenance of existing defences <i>(Linked to “collection of scientific data” in respect of monitoring and surveillance work on defences)</i>	Mechanism: Abrasion, Noise, Visual presence Potential impact: Disturbance to birds, especially if machinery is used.	Location: Coastal protection and flood defence improvement and maintenance works take place along the length of the Severn Estuary. Key Concerns: Disturbance to birds, especially if machinery is used. Management: Due to the regulated and variable nature of this activity it should be regarded a plan or project (F1).	EA, BWw, NS IDB, CHA, TBPC, GCC, MCC, NSC, SCC, SGC, VoGCC, FoDDC, SgDC, StDC, BCC, CC, NCC, Relevant RA dept: Planning, Environment (ecology), Critical Infrastructure (highways, estate and housing, flooding), Health and Safety.
EDUCATION AND SCIENCE ACTIVITIES			
<u>Collection of scientific data</u> This activity includes: <ul style="list-style-type: none"> - both land and water based survey and sampling - by foot and with the use of vehicles, vessels, aircraft and equipment 	Mechanism: Abrasion, Noise, Visual presence Potential impact: Impacts vary depending upon the timing, location and type of techniques used. They could include: Disturbance to birds through noise intrusion, trampling/ erosion of habitats due to monitoring/foot traffic, loss of habitat through removal or disturbance from boats in shallow waters. Certain invasive sampling techniques (e.g. sediment coring) undertaken in or near to intertidal feeding or roosting areas and during the winter months could cause noise and visual disturbance to birds and potentially cause damage to intertidal habitats by abrasion or direct removal of the habitat.	Location: This activity takes place around most of the estuary by many Relevant Authorities. Key Concerns: Disturbance to birds if undertaken in winter and impact on habitats if active sampling of habitats is required. Management: Depending on the type of survey/data collection, this is sometimes a plan or project and sometimes a routine activity (for example scientific data collection is carried out as an everyday function of many of the RAs, such as. water sampling or bathymetric survey).	CCW, EA, NE, BWw, WW-DC, WW, ABP (Cardiff and Newport), CHA, NHC, TBPC, GCC, MCC, SCC, SGC, VoGCC, FoDDC, SgDC, BCC, CC, THLS, (D&S IFCA?) Relevant RA dept: Environment (ecology, conservation), Education, Planning (licensing and permits), Recreation Leisure and Tourism.
<u>Archaeology</u> This activity includes: <ul style="list-style-type: none"> - access activities such as some survey, surveillance 	Mechanism: Visual presence, introduction of non-synthetic materials, selective extraction of	Location: This activity could be undertaken around most of the estuary by many Relevant Authorities. Key Concerns: Disturbance to birds if undertaken	ASERA GCC, MCC, NSC, SCC, SGC, VoGCC, StDC, BCC, CC, NCC,

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
<p>and monitoring</p> <ul style="list-style-type: none"> - physical impact activities such as some survey, excavation studies and implementation of protection measures 	<p>species.</p> <p>Potential impact: Impact concentrated on specific sites. Disturbance to birds (roosting and feeding) could be temporary or permanent depending on restoration of land. Possible loss of f habitat. If major archaeological find - may become a tourist attraction with consequential impacts (dealt with under land based recreation).</p>	<p>during winter and impacts on habitats if excavation is required.</p> <p>Management: This activity is carried out as an everyday function of the LPAs and by universities and specialist groups. Activities by universities and specialist groups within the EMS require consent from the relevant country conservation agency. Due to the variable nature of this activity it should be regarded a plan or project (F1).</p>	<p>Relevant RA dept: Recreation, Leisure and Tourism, Heritage, Planning (Licensing and Consents), Environment.</p>
<p><u>Educational field trips</u></p> <p>(An assumption has been made here that this activity relates to low level access within the EMS and does not involve any significant active removal or displacement of habitats and species).</p>	<p>Mechanism: Abrasion, Noise, Visual presence</p> <p>Potential impact: The impact is likely to depend upon the type of educational field visits. There are likely to be specific areas that attract most of the activity and the impact may therefore be concentrated at these sites. The impacts are disturbance to birds, damage to habitats by erosion or compaction. Removal of specimens may also deplete certain species.</p>	<p>Location: Key reported locations for educational field trips are Cardiff Bay, Slimbridge, Newport Wetlands, Wentlooge, Bridgwater Bay NNR, Kilve, WSM STW (Axe), Burnham/Berrow, Flat Holm, Penarth – some are subject to controlled access by conservation organisations or other RAs and others are open public access sites.</p> <p>Key Concerns: Disturbance to birds and habitat is the key concern, however given the locations involved and intensity of this activity it is not considered to be of concern.</p> <p>Management: Local Planning Authorities report an unknown number of events take place annually but there is little information on the timing of this activity. Schools and colleges are empowered to make their own arrangements as LPAs have an advisory role only but there is currently no formal arrangement for reporting or monitoring.</p>	<p>EA, NE, BWw, WW, CHA, GCC, MCC, NSC, SCC, SGC, VoGCC, SgDC, CC, NCC,</p> <p>Relevant RA dept: Education, Planning (Licences and Consents), Tourism and Recreation, Health and Safety and Incident Planning, Environment (Conservation).</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
PLANNING ACTIVITIES			
<p><u>Emergency planning</u></p> <p>This activity includes several types of emergency planning associated with the accidental release of harmful substances into the environment. Emergency planning can be split into several different phases; preparing the plan, training exercises to test the plan, implementation in an emergency, monitoring of effectiveness post event and review. The focus is on planning preparedness and the act of responding to an emergency event (e.g. shoreline clean-up operations in the event of an oil spill). Each stage requires appropriate consideration of the potential or actual impact on the EMS.</p>	<p>Mechanism: Noise, Visual Presence, Introduction of synthetic and non-synthetic materials, changes in nutrient loading changes in organic loading</p> <p>Potential impact: Impacts can be caused both by the emergency event and during the response to it, including long term damage to species and habitats by disturbance, toxic contamination through the introduction of toxic substances and/or smothering by contaminants. Extent of impact can be increased due to tidal range, current, wind and waves. Cleanup operations can also cause impacts (including use of dispersants, and mechanical large scale operation). There is also the potential for air borne pollution and physical loss of habitat.</p>	<p>Location: The activity includes the whole of the Severn Estuary. Areas of industrial activity are considered a higher risk and may have specific emergency planning requirements.</p> <p>Key Concerns: Disturbance to birds if undertaken in winter and impact on habitats.</p> <p>Management: Responding to actual emergency incidents is very rare within the Severn Estuary. Nevertheless plans are continuously being prepared and rehearsed and there is the Severnside Siren arrangement. This activity is therefore regarded as a plan or project (F1).</p>	<p>EA, BWw, WW-DC, WW, C&W IDB, ABP (Cardiff and Newport), CHA, GHT, NHC, PoB, TBPC, GCC, MCC, NSC, SCC, SGC, VoGCC, FoDDC, SgDC, StDC, BCC, CC, NCC,</p> <p>Relevant RA dept: Planning (Licences and Consents), Health and Safety, Incident Planning.</p>
<p><u>Managing unauthorised waste</u></p> <p>This activity covers only waste which is dumped / fly tipped</p> <p><i>Note: some authorities have identified the disposal of waste washed up on the shore in this category but these have been assigned to "Beach Cleaning"</i></p>	<p>Mechanism: Noise, visual presence, introduction of synthetic and non-synthetic materials</p> <p>Potential impact: 1)Toxic contamination to benthos, birds, fish and habitats, 2)damage to habitats through smothering. 3)impacts from litter. (Birds may become entangled/ingest plastic). Effects likely to be localised and directly related to vehicular access. Method of managing waste is the major (Activity) issue, in that disposing of the waste could cause disturbance through noise, visual presence etc. and is dependent upon</p>	<p>Location: This activity could be undertaken around most of the estuary by many Relevant Authorities.</p> <p>Key Concerns: Toxic contamination, damage through smothering. Birds may become entangled/ingest plastic. Effects are likely to be localised and directly related to vehicular access. Method of managing waste is the major (Activity) issue, in that disposing of the waste could cause disturbance through noise, visual presence etc. and is dependent upon location and time of year.</p> <p>Management: The Environment Agency will remove tipped waste below MHWM if there was a perceived impact on any flood defence/coastal erosion scheme and if the material was hazardous waste. The EA work in co-operation with Local Planning Authorities in accordance with several agreed protocols to deal with flytipping</p>	<p>EA, BWw, ABP (Cardiff), CHA, TBPC, GCC, MCC, NSC, SGC, VoGCC, FoDDC, SgDC, StDC, BCC, CC, NCC,</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Planning (Licences and Permits), Environment (Waste), Health and Safety, Incident Planning.</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
	location and time of year.	issues. Within their own areas ports use bylaws to control tipping. This activity is therefore regarded as a plan or project (F1).	
<p><u>Activities that result in the release of contamination from historic industry</u></p> <p>This activity includes any excavation or disturbance of the ground/sediments that contain contaminants that could (via release into the water column) impact on the features of the EMS e.g. through dredging, channel maintenance, wash off from terrestrial industrial sites</p>	<p>Mechanism: Introduction of synthetic and non-synthetic materials</p> <p>Potential impact: Potential for contaminants to leak into the habitats and enter the food chain with impacts on benthos, fish and/or birds.</p>	<p>Location: Activities that can result in the release of historic contamination from soils and sediments can potentially occur in any location around the estuary. This is more likely to be an issue where historic land use has included heavy industry either directly affecting the area concerned or affecting a wider area by the dispersal and build up of contaminated sediments.</p> <p>Key Concerns: Potential for contaminants to leak into the habitats and enter the food chain.</p> <p>Management: Existing pollution control measures should control potential impacts but may require appropriate evaluation and testing of areas of high risk in avoidance of works that may disturb sediments.</p>	<p>EA, WW-DC, WW, LA IDB, LB IDB, P IDB, TBPC, GCC, SCC, SGC, FoDDC, BCC, CC, NCC,</p> <p>Relevant RA dept: Planning, Health and Safety, Incident Planning, Critical Infrastructure, Environment (ecology, waste).</p>

Activity	Mechanism(s) for/and potential impact (s)	Location, Key Concerns and Current Management	Relevant Authorities and internal dept/ function to whom this applies
MISCELLANEOUS ACTIVITIES			
<p><u>Low flying aircraft</u></p> <p>This activity includes the movement of small aircraft and helicopters over the EMS at low levels e.g. the heliport at Cardiff, rescue and emergency service exercises, operation of microlights or helicopter ride events.</p>	<p>Mechanism: Noise, Visual Presence</p> <p>Potential impact: Disturbance to feeding and roosting birds in winter passage</p>	<p>Location: helicopters in the vicinity of Cardiff heliport, and small aircraft in the vicinity of the coastline around the estuary</p> <p>Key Concerns: The effects of this activity in respect to disturbance to the bird features (of the SPA and Ramsar and as a sub feature of the SAC) are unknown, especially during Winter. Otherwise low flying aircraft does not cause deterioration or significant disturbance to the EMS.</p> <p>Management: Where being undertaken as part of an authorised facility impacts on the EMS should be addressed by regulatory processes associated with approval of those facilities - through impact assessment and appropriate operating conditions. Use of such aircraft within the EMS as part of an organised event is likely to be subject to licensing by the local authority and regulated accordingly (See also “Events and festivals”). Use of such aircraft within the EMS as part of an organised exercise/training by a public service authority should take account of the possible impacts on the EMS in planning of the exercise. No regulation of ‘hobby’ aircraft with respect to the EMS</p>	<p>NSC, SGC, VoGCC, CC,</p> <p>Relevant RA dept: Recreation, Leisure and Tourism, Environment (ecology), Planning (Licences and Permits).</p>

Appendix 5 - F-Code Guidance derived for 2004 Management Scheme and revised for 2011 scheme

Code	Assessment (used by the countryside agencies to provide assessment advice on the activity proformas)	Guideline Management options
F1	The activity constitutes a plan or project .	Competent Authority to apply Conservation Regulations 61- 66. Maintain audit trail on decisions. ASERA to provide framework where appropriate.
F2	No impact possible There is no known mechanism(s) for the activity to cause deterioration or significant disturbance to a feature(s). Activity is not known by the RA to have an effect in its area of jurisdiction.	No action is required for activities that do not have an effect on the site, subject to the continuation of current management. Where there is a change in management, or in light of further information, the impact of the activities should be re-assessed.
F3	Impact unknown There is a known mechanism(s) for the activity to cause deterioration or significant disturbance to a feature(s), but there is insufficient current information to determine whether or not it is causing deterioration or significant disturbance.	One or more of the following management options may be considered for activities with an unknown effect on the site: a. No action, subject to the continuation of current management. Where there is a change in management, or in light of further information, the impact of the activities should be re-assessed. b. Increased monitoring of the condition of the feature/site c. Surveillance of the extent of activities d. Compile existing information or undertake research to better understand any cause and effect relationship and other relevant information gaps e. Precautionary management measures (see e-l below for examples) Selection of the appropriate management option above will be considered on a case by case basis depending on the likelihood of an impact occurring and the magnitude of that possible impact. Effort and costs associated with researching or addressing “unknown impacts” should be proportional to the environmental improvement likely to result from those actions.
F4	No impact identified There is a known mechanism(s) for the activity to cause deterioration or significant disturbance to a feature(s), but no current information shows that it is causing deterioration or significant disturbance at present. Activity is not known by the RA to have an effect in its area of jurisdiction	No action is required for activities that are not known to have an effect. Where there is a change in management, or in light of further information, the impact of the activities should be re-assessed. Management options may be reviewed in the light of revised advice from the countryside agencies.

<p>F5</p>	<p>Significant impact (managed)</p> <p>There is current information to suggest that an activity is causing deterioration or significant disturbance to a feature(s) and the mechanism(s) is known.</p> <p>Activity is known by a Relevant Authority to be having an effect in its area of jurisdiction and a single Relevant Authority is responsible or has power for that activity.</p> <p>Activity is known by a Relevant Authority to be having an effect in its area of jurisdiction and a number of Relevant Authorities have powers or are responsible for that activity around the Estuary</p>	<p>For activities with a known impact on the site, action must be taken.</p> <p>Actions may include one or more of the following:</p> <ol style="list-style-type: none"> Increased monitoring of the condition of the feature/site Surveillance of the extent of activities Research to address gaps in information Provision of information to Relevant Authorities, interested parties, and the public as appropriate. Training of staff within Relevant Authorities. Liaison and improved communication with other Relevant Authorities, interested parties and the public Introduction of Voluntary Codes of Conduct Review and possibly amendment of existing management regimes/procedures Enforcement of byelaws Development and trialling of operational limits Zoning of activities No action required (further information indicates that adequate management measures are in place to avoid or minimise effects on the feature/site; or in the absence of any alternative, cost-effective management solutions). <p>Selection of the appropriate management option above will be considered on a case by case basis depending on the nature, magnitude and current management of that possible impact. Effort and costs associated with researching or addressing “impacts” should be proportional to the environmental improvement likely to result from those actions.</p>
<p>F6</p>	<p>Significant impact (unmanaged)</p> <p>There is current information to suggest that an activity is causing deterioration or significant disturbance to a feature(s), but it is outside management control, or there is no current mechanism for management).</p> <p>Activity is having an effect and no one has responsibility for the activity.</p>	<p>When an activity with a known effect on the site is outside management control, Relevant Authorities may set-up a working/topic group of appropriate organisations and interested parties to consider possible actions (see a-l above).</p>

Appendix 6 - Table of F Codes for each activity, Relevant Authority and feature:

Summary of Natural England and Countryside Council for Wales advice on impact of activities

F0 - code for activity in respect of habitat features (of the SAC and Ramsar and of supporting habitats for birds)

F0 - code for activity in respect of disturbance of the bird features (of the SPA and Ramsar and as a sub feature of the SAC)

F0 - Code for activity in respect of the fish features (of the SAC and Ramsar)

F1 - Activity is a plan or project requiring regulatory consent by competent authorities

There are a number of Relevant Authorities who have not completed activity proformas for ASERA, these are;
Bridgwater & Pawlett District Drainage Board, Bristol Water Plc, Cannington & Wembdon District Drainage Board, Gordano Valley Internal Drainage Board, Lower Severn Internal Drainage Board, North Somerset Internal Drainage Board, Severn Trent Water Ltd, Gloucester City Council, West Somerset District Council, Marine Management Organisation.

		Relevant Authorities																																	
		Nature Conserv		Water Companies		IDB's		Ports				County Councils				District Councils		City Councils		Other															
		COW	Environment Agency	Natural England	Bristol Water	British Waterways	Welsh Water - Dŵr Cymru	Wessex Water	Caldicot & Wentlooge IDB	Lower Severn IDB	North Somerset IDB	Somerset Drainage Boards Consortium (Ase, Brue & Horrett) (not)	West Mendip IDB	ABP (Cardiff & Newport)	Cardiff Harbour Authority (part of Cardiff Council)	Gloucester Harbour Trustees	Newport Harbour Commissioners	Port of Bridgwater (part of Sedgemoor District Council)	The Bristol Port Company	Gloucester County Council	Monmouthshire County Council	North Somerset Council	Somerset County Council	South Gloucestershire Council	Vale of Glamorgan County Council	Forest of Dean District Council	Sedgemoor District Council	Stroud District Council	Bristol City Council	Cardiff Council (excluding Cardiff Harbour Authority functions)	Newport City Council	Devon and Severn IFCA (WIG in Welsh waters)	Trinity House Lighthouse Service		
RECREATION	Airborne sports																																		
	Events/Festivals					F1							F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1				
	Land based recreation		F3	F3	F3	F3									F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3			
	Water based recreation		F4	F4	F4	F2	F2								F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4			
	Wildfowling	F1	F1																																
ANGLING related	Angling (recreational)	F4	F4	F4	F2									F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4			
	Bait digging	F4	F4	F4												F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4			
	Eel and elver fishing	F1	F1		F1									F1																	F1	F1			
	Fishing (commercial)		F1	F1																															
BOAT/SHIP related	Anchoring (recreational)				F4	F2	F2							F4	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2		
	Anchoring (commercial)		F4	F2	F2	F4	F2	F2						F4	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2		
	Boat repairs (recreational)		F4	F4	F4	F4	F4								F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Boat repairs (commercial)		F1																		F1										F1				
	Moorings														F2	F2	F1	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2		
PORT related	Navigation				F4	F4	F4							F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Commercial shipping/cargo operations				F4	F4	F4							F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Discharge/exchange of water ballast				F4	F4	F4							F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Lockgate & dock water mgt.		F4	F4	F4	F4	F4							F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Maintenance dredging		F1		F1										F4	F1	F1	F4	F1	F1															
LAND MANAGEMENT	Port waste management (inc ship generated waste)				F1									F1	F1			F1	F1																
	Agricultural run-off	F4	F4	F4	F4	F4	F4														F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Beach cleaning		F1	F1																		F1													
	Grazing	F1	F1	F1		F1	F1														F1	F1	F1	F1	F1						F1				
	Habitat creation and restoration		F1				F1	F1														F1	F1	F1	F1					F1	F1	F1	F1		
WATER MANAGEMENT	Barrage and sluice operation		F4	F2	F3	F4	F4			F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Estate discharge				F1									F1																					
	Excavation					F1			F1	F1	F1	F1	F1																						
	Highways discharge																				F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Release of contamination through historic industry		F1				F1	F1				F1									F1		F1	F1	F1	F1	F1			F1	F1	F1	F1		
INFRASTRUCTURE	Water channel maintenance																																		
	Cable laying & maintenance																																		
	Coastal protection and flood defence					F1				F1					F1						F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1		
	Outfall maintenance		F1		F1	F1	F1							F1																					
	Pipeline maintenance					F1	F1	F1							F1																				
SCIENCE & EDUCATION	Property & estate maintenance					F1	F1	F1							F1					F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1		
	Archaeology (studies & protection)																				F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1		
	Collection of scientific data																																		
PLANNING	Educational field trips		F4	F4	F4	F4	F4								F4	F4					F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4		
	Emergency planning		F2	F2	F2	F2	F2								F2	F2					F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2	F2		
MISCELLANEOUS	Managing unauthorised waste		F1			F1	F1	F1							F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1		
	Low flying aircraft																																		

ASERA does not have a proforma for this activity but believes that it is being undertaken by the RA. Please confirm via the consultation response form and a completed proforma, whether or not this activity takes place. Please provide ASERA with as much information as possible in the activity proforma.

		Relevant Authorities																																			
		Nature		Water Companies		IDB's		Ports				County Councils				District		City Councils		Other																	
		Consyn																																			
		CCW	Environment Agency	Natural England	Bristol Water	British Waterways	Welsh Water - Dŵr Cymru	Wessex Water	Calder and Wharfedale IDB	Lower Severn IDB	North Somerset IDB	Somerset Drainage Boards Consortium (Pace, Pore & Porrett Infact)	West Mendip IDB	ABP (Cardiff & Newport)	Cardiff Harbour Authority (part of Cardiff Council)	Gloucester Harbour Trustees	Newport Harbour Commissioners	Port of Bridgwater (part of Sedgemoor District Council)	The Bristol Port Company	Gloucester County Council	Monmouthshire County Council	North Somerset Council	Somerset County Council	South Gloucestershire Council	Vale of Glamorgan County Council	Forest of Dean District Council	Sedgemoor District Council	Stroud District Council	Bristol City Council	Cardiff Council (excluding Cardiff Harbour Authority/Junctions)	Newport City Council	Devon and Severn IFCa (WIG in Welsh waters)	Cardiff Harbour Authority/Junctions	Other			
RECREATION	Airborne sports																				F2 F3 F2	F2 F3 F2	F2 F3 F2	F2 F3 F2	F2 F3 F2	F2 F3 F2	F2 F3 F2										
	Events/Festivals				F1									F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1			F1	F1						
	Land based recreation	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2											F3 F3 F2				F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2	F3 F3 F2				
	Water based recreation	F4 F3 F4	F4 F3 F4	F4 F3 F4	F2 F2 F2											F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4	F4 F3 F4				
ANGLING related	Wildfowling	F1		F1																																	
	Angling (recreational)	F4 F4 F4	F4 F4 F4	F4 F4 F4	F2 F2 F2									F4 F4 F4	F4 F4 F4	F4 F4 F4				F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4			F4 F4 F4	F4 F4 F4	F4 F4 F4					
	Bait digging	F4 F4 F4	F4 F4 F4	F4 F4 F4	F2 F2 F2												F4 F4 F4											F3 F3 F4				F4 F4 F4					
	Eel and elver fishing	F1	F1		F1										F1																	F1	F1				
BOAT/SHIP related	Fishing (commercial)	F1	F1																						F1												
	Anchoring (recreational)				F4 F2 F2									F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2		F4 F2 F2					F4 F2 F2	F4 F2 F2				F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2			
	Anchoring (commercial)	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2									F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2		F4 F2 F2												F4 F2 F2	F4 F2 F2	F4 F2 F2		
	Boat repairs (recreational)	F4 F4 F4	F4 F4 F4	F4 F4 F4											F4 F2 F4	F4 F2 F4	F4 F2 F4				F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4				F4 F2 F4	F4 F2 F4	F4 F2 F4	F4 F2 F4			
	Boat repairs (commercial)	F1													F1						F1										F1						
	Moorings													F2 F2 F2	F2 F2 F2	F2 F2 F2	F2 F2 F2	F2 F2 F2	F2 F2 F2		F2 F2 F2																
PORT related	Navigation				F4 F4 F4									F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4		F4 F4 F4																
	Commercial shipping/cargo operations				F4 F4 F4									F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4		F4 F4 F4																
	Discharge/exchange of water ballast				F4 F4 F4									F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4		F4 F4 F4																
	Lockgate & dock water mgt.	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4									F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4		F4 F4 F4																
LAND MANAGEMENT	Maintenance dredging	F1		F1										F4 F4 F3	F1 F1 F3	F1 F1 F3	F4 F2 F3	F1 F1 F3																			
	Port waste management (inc ship generated waste)				F1									F1	F1			F1	F1																		
	Agricultural run-off	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4														F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4				F4 F4 F4	F4 F4 F4	F4 F4 F4	F4 F4 F4			
	Beach cleaning	F1	F1																																		
WATER MANAGEMENT	Grazing	F1	F1	F1	F1	F1														F1	F1	F1	F1	F1							F1						
	Habitat creation and restoration	F1			F4 F1	F1	F1														F1	F1	F1	F1	F1					F1	F1	F1	F1				
	Barrage and sluice operation	F4 F2 F4			F3 F4 F4			F4 F4 F4	F4 F2 F4	F4 F2 F4	F4 F2 F4	F4 F2 F4			F4 F2 F5																						
	Estate discharge				F1										F1																						
	Excavation				F1			F1	F1	F1	F1	F1																									
	Highways discharge																				F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2				F4 F2 F2	F4 F2 F2	F4 F2 F2	F4 F2 F2			
INFRASTRUCTURE	Release of contamination through historic industry	F1			F1	F1					F1									F1						F1					F1	F1	F1				
	Water channel maintenance								F2 F2 F2	F2 F2 F2	F2 F2 F2	F2 F2 F2																									
	Cable laying & maintenance																								F1				F1	F1							
	Coastal protection and flood defence	F1			F1						F1					F1					F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1			
SCIENCE & EDUCATION	Outfall maintenance	F1		F1	F1	F1								F1																							
	Pipeline maintenance				F1	F1	F1																														
	Property & estate maintenance				F1	F1	F1							F1	F1					F1			F1	F1	F1	F1	F1	F1		F1	F1	F1	F1				
	Archaeology (studies & protection)																																				
PLANNING	Collection of scientific data	F1	F1	F1	F1	F1	F1							F1	F1					F1	F1	F1	F1	F1	F1	F1	F1			F1	F1	F1	F1				
	Educational field trips	F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2								F4 F4 F2					F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2				F4 F4 F2	F4 F4 F2	F4 F4 F2	F4 F4 F2				
	Emergency planning	F1			F1	F1	F1	F1							F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1		F1	F1	F1	F1				
MISCELLANEOUS	Managing unauthorised waste	F1			F1										F1	F1				F1	F1	F1	F1	F1	F1	F1	F1			F1	F1	F1	F1				
	Low flying aircraft																																				
																																		</			