WFD Assessment 23 -11- 21

for Marine Licence application reference: DEML2158

River Usk cable crossing, Newport

The Water Framework Directive sets out goals for the condition of water bodies and provides a framework detailing the means and processes for achieving them. The overall goals are to achieve a ‘‘good’’ and non-deteriorating ‘‘status’’ for all water bodies which include surface water bodies, groundwater and coastal water bodies. In determining the status of a water body, a number of biological, hydromorphological and chemical quality characteristics, called elements, are considered. The overall status of the waterbody is determined by the lowest element status. Therefore, any activities with the potential to impact on the elements will be screened to determine if they would result in the deterioration of a water body.

A scoping template has been completed and will accompany this Report. This details the current WFD status of the River Usk at this location.

Scoping: identified risks to receptors

The following receptors were considered at the scoping and potential risks identified. The receptors are:

- hydromorphology
- biology – habitats
- biology – fish
- water quality
- protected areas

These receptors are based on the water body's quality elements.

In addition, invasive non-native species (INNS) were also considered at the scoping stage.

Hydromorphology

Hydromorphology is the physical characteristics of estuaries and coasts.

This proposal involves boring/drilling under the bed of the River Usk to install a power cable and will be at a minimum 12m below the river bed level. This will not have an impact on the hydromorphology of the river channel including the size, shape and structure of the river and the flow and quantity of water and sediment.

Therefore, hydromorphology will not be considered any further in this report.

Biology: habitats

Include habitats in your impact assessment if the footprint of your activity is any of the following:

- within 500m of any higher sensitivity habitat

The only higher sensitivity habitat within this distance is:

- saltmarsh

Biology: fish

You only need to consider fish if your activity:

- is in an estuary and could affect fish in the estuary
- is outside the estuary but could delay or prevent fish from entering the estuary
- could affect fish migrating through the estuary to freshwater

Include fish in your impact assessment if your activity could impact on normal fish behaviour like movement, migration or spawning. For example, if your activity will lead to:

- a physical barrier like a barrage or weir
- noise or vibration
- a chemical change like low dissolved oxygen across part or all of the estuary
- a significant change to the depth or flow of the water body

Also include fish in your impact assessment if your activity could cause:

- entrainment, for example fish drawn into mechanical plant like cooling systems or tidal turbines
- impingement, for example fish trapped against debris screens

Water quality

Water quality is not considered in the impact assessment as the drilling procedure under the river bed will not adversely affect water quality.

- It will not affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)
- It is not in a water body with a phytoplankton status of moderate, poor or bad
- It is not in a water body with a history of harmful algae

The proposed activity will not use or release chemicals that are on the Environmental Quality Standards Directive (EQSD) list

- The activity will not disturb sediment with contaminants above Cefas Action Level 1

Therefore, water quality is not considered any further in this report.

Protected areas

If your activity is within 2km of any WFD protected area, include each identified area in your impact assessment.

WFD protected areas include:

- special areas of conservation (SAC)
- special protection areas (SPA)
- shellfish waters
- bathing waters
- nutrient sensitive

The drilling procedure to install the power cable is under the bed of the River Usk SAC and under 2km from the Severn Estuary SAC, SPA.

Invasive non-native species (INNS)

Include INNS in your impact assessment if your activity could introduce or spread INNS to a water body.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or to other water bodies

Correct checks and procedures will be required to prevent the introduction or spread of INNS species at the site.

Impact assessment: considered impacts and mitigation

The impact assessment for each receptor identified during the scoping stage are presented below:

Biology: habitats

Only one higher sensitivity habitat is within 500m of the proposed work – Saltmarsh

There are small areas of saltmarsh along each bank of the river. The direct drilling will be at least 12m below the bank level and will not affect this habitat.

Biology: Fish

A number of fish species are part of the River Usk Special Area of Conservation (SAC) designation. These include Twaite and Allis Shad and Atlantic Salmon. These species migrate from the sea into the river to spawn at sites upstream.

Allis and Twaite shad are relatively poor swimmers and can be affected by noise and vibration within or close to the river channel. The peak migration up the river through Newport is during the April to June period. Any work during these months could affect this species and further noise/vibration assessment would be required.

This proposal is scheduled for January and will avoid the sensitive time for this species. The direct drilling procedure will be at a relatively slow rotation speed and will be more than 12m under the river bed. This will not affect any other fish species. The work should be completed in under two weeks.

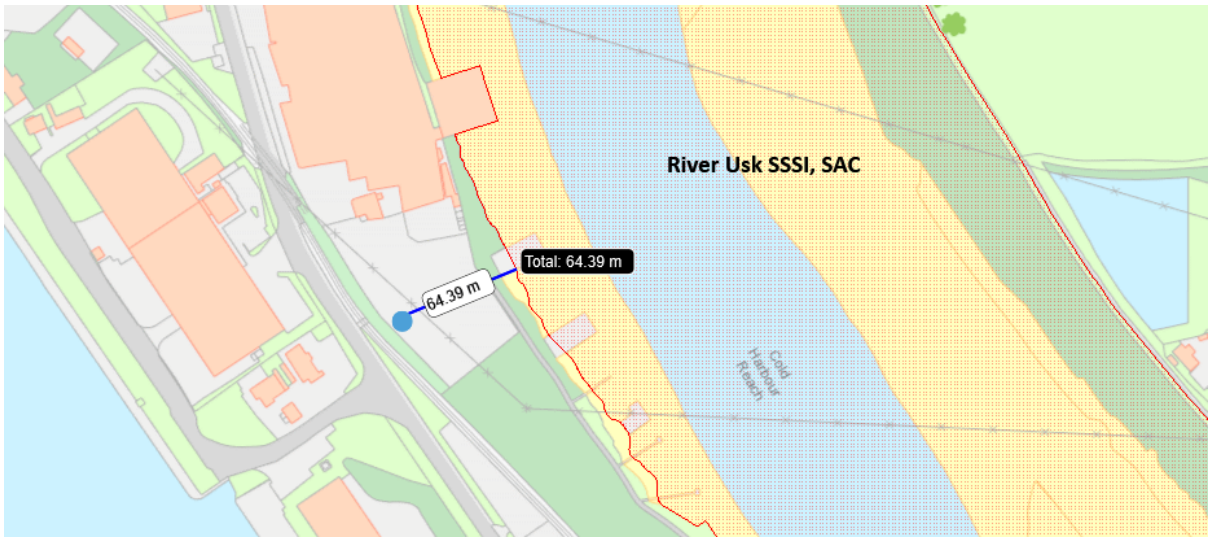
Therefore, the timing of the works will not impact on any fish species.

Protected Areas

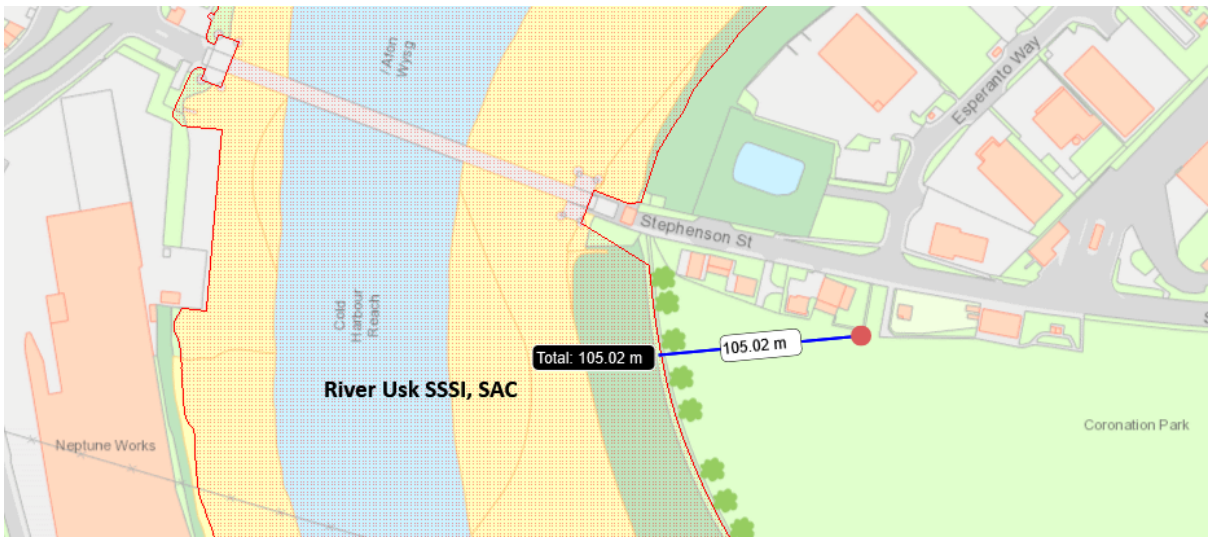
The power cable installation will involve directional drilling under the River Usk SAC between the points shown in the map below.

The SAC protected site boundary is outlined in red.

The launch pit on the western bank is 64m from the protected site as shown below.



The receive pit on the eastern bank is 105m from the protected site as shown below.



The new power cable will be a minimum of 12m below the river bed and will not adversely affect the River Usk SAC.

The Seven Estuary SAC, SPA is 3.5km fluvial travel from the work location and 2km away at the nearest point. This site will not be impacted by this localised work upstream. At these distances, over wintering bird roosts within the Severn Estuary SPA will not be affected by any of the proposed work.

Invasive Non-Native Species (INNS)

There are no INNS species at the launch or receive pit areas.

The launch pit on the west bank side of the river is within a car park within an industrial area.

The receive pit on the east bank side is in an area of amenity grassland within Coronation Park.

There’s potential that any activity could introduce or spread INNS to a water body.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies

It is vital that any machinery brought on to site should be clean and free from any INNS seeds or plant fragments. This check will be carried out prior to any work commencing.

Therefore, there should be no pathways to disturb or introduce INNS species.

Summary and Conclusions

This proposal involves the directional drilling under the River Usk to install a power cable. This will be at a minimum 12m depth under the river bed. The entry and exit points will be well away from the river bank areas. There will be little or no disturbance to Protected Sites.

This is a localised procedure lasting up to two weeks and will take place in January thus avoiding the migration period of sensitive fish species.

This proposed activity will not result in a decline in any WFD quality elements or prevent the site from attaining Good status or potential now or in the future.