TECHNICAL NOTE

JBA Project Code	2025s0023
Contract	Kenson River Restoration
Client	Natural Resources Wales
Date	15th May 2025
Author	James Nixon
Reviewer / Sign off	Natasha Todd-Burley
Subject	Kenson River Restoration WFD Screening Assessment

1 Overview

1.1 Screening Assessment Process

The Screening Assessment aims to exclude any activities where there is no mechanism for an effect on the ecological, chemical or quantitative status (or potential) of the water body. This initial stage of the Water Framework Directive (WFD) compliance assessment screens the proposed activities against the ecological and chemical status objectives for the surface water bodies potentially affected by the works, and against the quantitative status objectives if ground water bodies may be affected. At this step, each of the relevant quality elements (i.e. the biological, hydromorphological, physico-chemical, chemical or quantitative characteristics) are to be considered. The goal of this process is to identify if the evaluated activity can influence the status of any of these elements. In line with the objectives of the WFD, an effect on status means a deterioration in the status of the element (i.e. a change across the relevant status class boundary) or an activity that compromises the achievement of an improvement in status class, in one or more surface or ground water bodies.

WFD elements for which no potential adverse effects are identified are not considered further in the assessment. Any potential adverse effects are screened and carried forward to the scoping assessment. If there is uncertainty, the activity should progress to the scoping assessment stage

2 WFD Water bodies

The site is located within the Kenson – conf with Waycock to conf with Thaw Catchment, within the Tawe to Cadoxton management catchment area. The following water bodies are considered:

- Waycock - headwaters to confluence with Kenson
- Llancarfan
- Kenson - conf with Waycock to conf with Thaw
- Thaw
- Thaw & Cadoxtan Jurassic Lias (Groundwater body)

Table 2-1 Current status of water bodies that are considered in this screening

Water Body ID	Water Body Name	Hydromorph-ological Designation	Current Ecological Status/ Potential	Current Overall Status / Potential	Overall objective
GB110058026400	Waycock - headwaters to confluence with Kenson	Natural	Moderate	Moderate	Good by 2027
GB110058026410	Llancarfan	Natural	Moderate	Poor	Poor by 2027
GB110058021000	Kenson - conf with Waycock to conf with Thaw	Natural	Moderate	Moderate	Good by 2027
GB110058026430	Thaw	Natural	Moderate	Moderate	Good by 2027
GB41002G201400	Thaw & Cadoxton Jurassic Lias (Groundwater body)	Natural	-	Good	Good by 2027

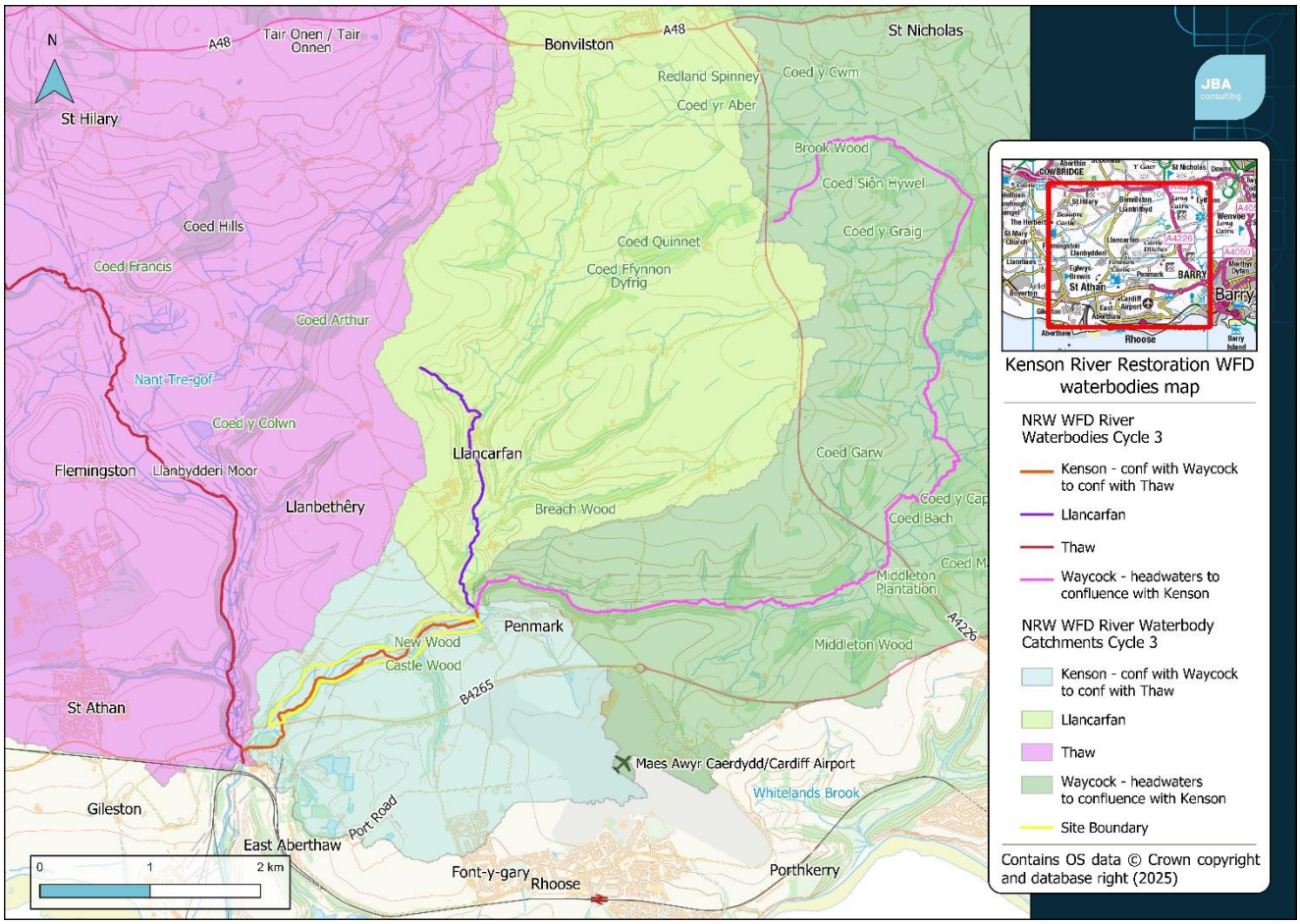

Figure 2-1 WFD water bodies and site location

3 Description of the proposed works

The proposed works consist of an extensive river restoration design on a 2.2km section of the Kenson River, near Fonmon Castle, in the Vale of Glamorgan, Wales. The Kenson River restoration project aims to improve biodiversity, increase habitat resilience and to minimise further deterioration of the WFD status. To do this the project is proposing to take eleven restoration opportunities forward:

- Embankment removal
- Riparian improvement/ planting
- Scrape creation
- Bank regrading
- Install woody material/ large wood
- Creation of in-channel berms
- Riffle creation/bed raising
- Reconnection of palaeo channels
- Backwater creation
- Wetland/scrape creation
- Drain/channel blocking

3.1 Images of proposed site

Figure 3-1 Channel in the upper restoration reach (ST 04885 68675)

Figure 3-2 Channel in the upper restoration reach (NGR: ST 04697 68653)

Figure 3-3 Channel under the vehicle bridge in the middle of the catchment (NGR: ST 04402 68387)

Figure 3-5 Channel in the middle of the catchment (NGR: ST 04221 68410)

Figure 3-4 Channel in the middle section of the restoration reach (NGR: ST 03896 68216)

Figure 3-1 Channel in the downstream section of the restoration reach (NGR: ST 03359 67893)

4 Protected Areas

The WFD specifies that areas requiring special protection under other retained EC Directive and waters used for the abstraction of drinking water are identified as protected areas. These areas have their own objectives and standards. Article 4 of the WFD requires Member States to achieve compliance with the standards and objectives set for each protected area by 22nd December 2015, unless otherwise specified in the legislation under which the protected area was established.

There are no statutory protected sites within close proximity or with hydrological connectivity to the site.

4.1 Nitrate Vulnerable Zones (NVZ)

The retained European Commission Nitrates Directive requires areas of land that drain into waters polluted by nitrates to be designated as Nitrate Vulnerable Zones (NVZs).

There are no NVZ within the catchment or close to the site of the proposed works.

4.2 Drinking water Protected Area River Catchments and Groundwater Drinking Water Protected Areas with Risk

Drinking Water Protected Areas (DrWPA) are designated under the WFD, with the aim of avoiding deterioration in their quality in order to reduce the level of purification treatment required in the production of drinking water.

The site does not sit with any drinking water protected areas, which includes river catchments and groundwater.

5 Screening outcome: Water Bodies

The following table indicates which water bodies have been screened in or out of the assessment and the reasons for this decision. Screened water bodies are mapped in Figure 2-1.

Table 5-1 Water Body Screening Outcome

Water Body	Reason	Screening Outcome
Waycock - headwaters to confluence with Kenson	The water body is located approximately 100m upstream of the proposed works site. However, with the project likely to benefit some WFD quality elements, the works are not likely to impact upon the WFD status of the Waycock.	**Screened OUT**
Llancarfan	The water body is located approximately 100m upstream of the proposed works site. However, with the project likely to benefit some WFD quality elements, the works are not likely to impact upon the WFD status of the Llancarfan.	**Screened OUT**
Kenson - conf with Waycock to conf with Thaw	The proposed restoration works will be taking place within this water body. There is potential for the project to have an impact upon WFD quality elements of the watercourse.	**Screened IN**
Thaw	The Thaw is located downstream of the proposed project site; however, the project has the potential to improve some WFD quality elements and the majority of the water body is located upstream of the confluence with the Kenson water body so is unlikely to be impacted.	**Screened OUT**
Thaw & Cadoxtan Jurassic Lias (Groundwater body)	The Thaw & Cadoxtan Jurassic Lias lies beneath the proposed restoration works and the downstream section of the site has naturally high groundwater, meaning there is potential for the project to have an impact on the groundwater water body.	**Screened IN**

6 Baseline status of screened in water bodies

6.1 WFD Status of the Kenson - conf with Waycock to conf with Thaw water body

Table 6-1 Biological Quality Elements

Biological Quality Element	Current Status (2021)	Objective
Invertebrates	Good	Good by 2027
Macrophytes and phytobenthos combined	Moderate	Good by 2027
Macrophytes sub element	Moderate	Good by 2027

Table 6-2 Hydromorphological Quality Elements Status

Hydromorphological Quality Element	Current Status (2021)	Objective
Hydrological Regime	Not High	Good by 2027
Morphology	Not high	Good by 2027

Table 6-3 Physio-Chemical Quality Elements Status

Physio-chemical Quality Element	Current Status (2021)	Objective
Ammonia (phys-chem)	High	High by 2027
Dissolved Oxygen (DO)	High	High by 2027
Phosphate	Moderate	Good by 2027
Temperature	High	High by 2027
pH	High	High by 2027

Table 6-4 Chemical Quality Elements

Chemical Quality Element	Current Status (2021)	Objective
Arsenic	High	High by 2027
Copper	High	High by 2027
Zinc	High	Good by 2027
Cadmium and its compounds	High	Good by 2027
Lead and its compounds	High	Good by 2027
Nickel and its compounds	High	Good by 2027

Table 6-5 Reasons for not achieving good (RNAG)

SWMI	Activity	Category	Pressure	Classification Element
Diffuse source	Unknown (pending investigation)	Agriculture and rural land management	Phosphate	Macrophytes and Phytobenthos combined
Point source	Sewage discharge (continuous)	Water Industry	Phosphate	Macrophytes and Phytobenthos combined
Diffuse source	Unknown (pending investigation)	Agriculture and rural land management	-	Phosphate
Point source	Sewage discharge (continuous)	Water Industry	-	Phosphate

6.2 WFD Status of the Thaw & Cadoxton Jurassic Lias (Groundwater body) water body

Table 6-6 Quantitative Status Elements Status (Groundwater)

Quantitative Quality Elements	Current Status (2021)	Objective
Quantitative GWDTEs test	Good	Good by 2027
Quantitative Dependant Surface Water	Good	Good by 2027
Quantitative Saline Intrusion	Good	Good by 2027
Quantitative Water Balance	Good	Good by 2027

Table 6-7 Chemical Status Elements

Chemical Quality Elements	Current Status (2021)	Objective
General Chemical Test	Good	Good by 2027
Chemical GWDTEs test	Good	Good by 2027
Chemical Saline Intrusion	Good	Good by 2027
Chemical Dependant Surface Water Body Status	Good	Good by 2027

7 Summary

To conclude the Screening Assessment, the following quality elements need to be considered further within a scoping assessment.

Kenson - conf with Waycock to conf with Thaw

- Biological Elements
- Hydromophological Elements
- Physico-chemical elements
- Specific Pollutants

Thaw & Cadoxtan Jurassic Lias (Groundwater body)

- Quantitative Elements
- Chemical Elements