Complying with the WFD Regulations 2017: scoping

Guidance note

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What is this document about?

This guidance note provides information on how to screen projects, plans and activities for compliance with the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (henceforth WFD Regulations).

Who is this document for?

This guidance is for anyone designing projects and activities that may impact on the water environment.

You must provide WFD Regulations compliance information to support any application for activities that may cause deterioration to a WFD Regulations water body or prevent it (or protected areas) from achieving the objectives set out in the River Basin Management Plan.

Be aware that you are likely to need to employ a suitably experienced and qualified consultant to do a WFD Regulations compliance assessment. You may also need specialist technical input depending on the activity and potential impacts.

Contact for queries and feedback

Integrated Water Planning Team, Evidence, Policy and Permitting Directorate

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To report issues or problems with this guidance contact:
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Stage 2: scoping

Scoping will assess the potential impacts of all activities forming part of your proposal, using the following approach:

- Sources – if the proposed activities can cause impact to the water environment
- Pathways – how activities can impact on the water environment
- Receptors – elements of the water environment impacted by the proposed activities.

You will need to complete a detailed assessment (Stage 3), if at scoping you identify a:

- potential risk of deterioration - this includes deterioration at element level that does not lead to a deterioration of overall water body status); or
- potential to prevent the water body or protected area from meeting its objectives.

At the scoping stage you must identify all potential risks associated with your proposal to each receptor. These are:

- hydrology and morphology (hydromorphology)
- water quality
- biology.

These receptors are based on quality elements that make up surface water body status. You must also consider the following:

- groundwater bodies
- protected areas
- sensitive habitats and species.

You will also need to consider temporary works and invasive non-native species (INNS) as they can cause deterioration to water body status.

You can find information about each receptor in the section below. Use this information to help you complete the Stage 2: scoping assessment:

- step 1: relate each activity included in your proposal to receptors for each relevant water body
- step 2: scoping of the project ‘alone’
- step 3: consider the potential in combination and/or cumulative impacts
- step 4: overall scoping summary.

Include each water body screened in as part of Stage 1 that are potentially impacted by the proposal. Water bodies can be scoped out if it can be demonstrated that there will be no impacts. You must provide clear justification why any water bodies are scoped out.

You can use the scoping template to help you complete your assessment. You can request a copy of the template from: WFDWales@cyfoethnaturiolcymru.gov.uk

Proposals which are scoped out at Stage 2 may still require other assessment to ensure they comply with other legislative requirements. For example, you may need to complete a Habitats Regulations Assessment.

Receptors

Hydromorphology

Hydromorphology includes both ‘hydrology’ and ‘geomorphology’ and describes the physical characteristics and processes of a water body. It includes the size, shape and structure of the water body, and the flow and quantity of water and sediment. Changes to the hydromorphology can impact on biology and water quality both directly and indirectly.

Include hydromorphology in your assessment if your proposal involves any of the below:

- changes to flow quantity (for example abstraction and discharge), the speed of flow (velocity) and flow variability (patterns of faster and slower water)
- changes to the form and structure of a river or lake (including the bed, banks and the marginal zone)
- changes to river continuity (such as removing or adding any barriers or other restrictions within the channel)
- altering the connectivity between a river and its floodplain
- changes to processes of sediment transport (erosion, deposition, or transfer), and/or
- changes to connection between surface water and groundwater, for example mine water remediation projects - seeking to disconnect surface waters from subsurface groundwater to limit pollution.

For activities affecting transitional (estuarine) and coastal waters your assessment must also consider:

- morphological conditions, for example depth variation, the seabed and intertidal zone structure
- tidal patterns, for example, dominant currents
- freshwater flow, and
- wave exposure.

Some water bodies are designated as heavily modified in the RBMPs. These are set the objective of good ecological potential rather than good status. If water bodies are designated as heavily modified, scope hydromorphology into your assessment. You can get this information by accessing the most up to date maps on Water Watch Wales.

Water quality

Water quality can be affected by the addition of contaminants, removal or addition of sediment and/or vegetation, as well as the modification of flow (e.g., dilution). Changes to water quality can affect the hydromorphology and ecology.

Scope water quality into your assessment if the proposal could affect:

- water clarity
- temperature
- salinity/conductivity
- oxygen levels
- nutrients (phosphate, ammonia and/or dissolved inorganic nitrogen)

- microbial patterns (transitional and coastal waters only)
- acidification (for rivers and lakes only) .

Also include water quality in your assessment if your proposal uses or releases chemicals (and measures cannot be used to control these) or changes the mixing properties of the water body. This could be through a new discharge, or changes to an existing discharge, sediment disturbance or building works. This is necessary if your proposal includes an activity that:

- releases chemicals on the Environmental Quality Standards Directive (EQSD) list
- disturbs sediment with contaminants (for estuarine and coastal waters above Cefas Action Level 1).

If the activity releases chemicals on the EQSD list from a pipe or outfall, and has a mixing zone, follow the Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk).

Biology

Biology elements include fish, invertebrates, macrophytes (plants) and phytoplankton (single cell algae).

Scope biology into your assessment if your proposal could impact on the biological elements.

Fish

Fish should be included in your assessment if the activity could impact on fish behaviours including movement, migration, spawning, or species composition and abundance. For example, if the activity could lead to:

- a new or change to a physical barrier e.g., a barrage or weir
- a sediment plume
- noise or vibration
- a chemical change e.g., low dissolved oxygen across part or all of a water body
- a change in habitat e.g., changes to fish spawning/feeding/nursery areas or refuge/predation areas
- a significant change to the water quality, quantity, depth or flow of the water body

Fish should also be included if the activity could cause mechanical injury or death to fish through:

- entrainment, e.g., fish being drawn into cooling water systems or turbines
- impingement, e.g., fish trapped against debris screens
- in river works - e.g., plant tracking across or up the river channel.

Habitats in transitional and coastal water bodies

For transitional and coastal water bodies include habitats in your assessment if the footprint of your proposal is any of the following:

- 0.5 km² or larger
- 1 % or more of the water body's area
- within 500 m of any higher sensitivity habitat (see list below)
- 1 % or more of any lower sensitivity habitat (see list below).

A footprint may include a temperature or sediment plume. You must provide evidence of the footprint of your proposal.

For dredging, calculate the footprint as 1.5 times the dredge area.

For WFD Regulations compliance assessment purposes, higher sensitivity habitats are:

- chalk reef
- clam, cockle and oyster beds
- intertidal seagrass
- maerl
- mussel beds, including blue and horse mussel
- polychaete reef
- saltmarsh
- subtidal kelp beds
- subtidal seagrass.

Lower sensitivity habitats are:

- cobbles, gravel and shingle
- intertidal soft sediments like sand and mud
- rocky shore
- subtidal boulder fields
- subtidal rocky reef
- subtidal soft sediments.

These can be found on Data Map Wales listed as Section 7 habitats and species.

Also scope biology into your assessment if the proposal:

- is in a water body with a phytoplankton (Phytoplank) status of less than good (lakes and TraC) or opportunistic macroalgae (OppMac_sub) (transitional and coastal waters only);
- is in a water body with a history of harmful algae (Shellfish waters only) – available on: the CEFAS website.

Invasive non-native species (INNS)

INNS can have indirect impacts on the overall status of a water body which can cause deterioration or prevent a water body from achieving its objective. You must identify if your proposal has the potential to introduce or spread INNS, pests or pathogens (e.g. crayfish plague) to or within a water body.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from other locations and in particular, had use in or travelled through, other water bodies or coastal waters e.g. ships arriving from >1 nm, and
- activities that help spread existing INNS, either within the immediate water body or to other water bodies.

If there is a risk of the proposal introducing or spreading INNS, then a Biosecurity Risk Assessment/Plan must also be carried out and clearly referenced in your assessment. For further information on INNS see Appendix 1

Groundwater

You must identify if your proposal includes activities that have the potential to impact on the quality or quantity of groundwater and include them in your assessment. Examples of such activities include:

- a change to groundwater flows, e.g. below ground structures which restricts or alters baseflow to dependent surface water or wetlands
- abstraction of groundwater, particularly near sensitive locations e.g. Groundwater dependent terrestrial ecosystems, available on Water Watch Wales
- a change to groundwater quality/chemistry due to inputs of pollutants to the ground.

You will need to consider whether any hydrogeological alterations brought about by your proposal will potentially impact upon a groundwater body to a significant enough extent that may cause deterioration in status. You can find further advice about groundwater protection on our website: Natural Resources Wales / Protecting groundwater.

Protected areas

Protected areas under the WFD Regulations 2017 include:

- Drinking Water Protected Areas (Surface and Ground)
- Shellfish Water Protected Areas
- Bathing Waters
- Sensitive Areas (designated under the Urban Waste Water Treatment Regulations)
- Water dependent:
    - Special Areas of Conservation (SAC)
    - Special Protection Areas (SPA)
    - Ramsar sites.

If your proposal is within, or hydrologically connected to, a protected area, include it in your assessment. Also include any protected areas that could potentially be at risk from the activity, for example from aerial emissions.

A Habitats Regulations Assessment is also required for SACs, SPAs and RAMSAR sites. You can find further information on the Welsh Government website: Habitats regulations assessments: protecting a European site [HTML] | GOV.WALES

You can find further information on protected areas in Appendix 1

Temporary works

Remember that even where works are temporary the impacts to the ecology of a water body may be longer lasting. Contact NRW for further advice.

Other receptors

Small non-reportable water bodies and wetlands

Some watercourses are not reported on in the RBMPs or on WWW. These watercourses are still protected under the WFD Regulations 2017 and you should assume it is at good status or take action to ascertain the existing quality of the environment before you carry out your assessment.

These include, but are not limited to:

- reens,
- ditches,
- streams or
- brackish lagoons.

Other aquatic habitats such as bogs, ponds, reedbeds etc play an important role in managing and storing water within the catchment; any impacts to these habitats can also have an indirect impact on a hydrologically connected water body. For example, impacts on groundwater can directly impact on hydrologically connected groundwater dependent terrestrial ecosystems. You can find a map on: Water Watch Wales

If your proposal could impact on a small non-reportable water body or a wetland then you should include them in your assessment and consider measures to protect, and where possible, improve them.

Section 7 habitats and species

Under the Environment (Wales) Act, 2016, all public authorities have a duty to maintain and enhance biodiversity and promote the resilience of ecosystems.

Under Section 7 of the Environment (Wales) Act 2016, the Welsh Government have published lists of priority habitats and species. The lists are available on the Wales Biodiversity Partnership website.

Although the extent or physical impact of a scheme may be minimal, it may directly impact upon a priority habitat or species and therefore should be considered as part of your assessment.

Further information on the role of wetlands in helping to achieve the environmental objectives is available in Appendix 1.

Stage 2 scoping assessment

Step 1: Relate each activity included in your proposal to receptors for each relevant water body

For each activity within your proposal, you must assess if there is an impact pathway to each receptor – either direct or indirect.

As an example, physical works can impact the water environment:

- **directly** – by altering or removing habitat, which in turn could impact fish, macrophyte and invertebrate populations, or
- **indirectly –** by impacting fish, macrophytes and/or invertebrates by changing how their habitat is created and sustained, or by changing water quality. These changes often occur over longer time scales.

Where there is a direct or indirect pathway you need to consider the links between:

- the sensitivity of the receptor(s)
- the magnitude of impact(s) caused by the proposed activities - consider the spatial extent, duration, frequency, and severity (the degree of change relative to the baseline)
- hydromorphology and ecology,

Use Water Watch Wales to access information on element classification for each water body. If there is no element classification provided for an element, assume it is at good status.

Step 2: Scoping of the proposal 'alone'

Q2.1 Is there a risk that a component of your proposal may cause deterioration in status of any element that makes up water body status?

Where a water body could be negatively impacted by a component of the proposal, **or** where there is a lack of confidence on whether there is potential risk to a receptor, then these should be scoped in for further assessment.

Consider any measures that can be included within the proposal at this point that will ensure the potential effects are avoided. For example chemical spills is a risk, but can be scoped out via appropriate pollution prevention measures. Where impacts can be avoided through measures already included in the scheme then they can be scoped out:

- list all avoidance measures that have been included in the proposal.

Q2.2 Is there a risk that a component of the proposal may prevent the water body or protected area from achieving its objective in the future?

You need to consider if the proposal could:

- prevent improvement activities taking place in the future if the relevant water bodies are not achieving good status; you can check the Reason for Not Achieving Good Status (RNAGS) and local actions on Water Watch Wales; and/or,
- reduce the effectiveness of local/national measures and mitigation measures for HMWBs (both available on Water Watch Wales), already in place,
- prevent a protected area from meeting its objectives.

If you identify a pathway from your proposal to a protected area, you must consider what the area is designated for, and, show how the activity will not jeopardise the protected area objectives that are listed in the RBMP (see Appendix 1).

Where different standards/objectives apply for the WFD Regulations 2017 and the protected area objectives, then you must use the most stringent standards. For example, phosphate standards in Special Area of Conservation (SAC) rivers are generally more stringent than the WFD Regulations standards.

If your activity could affect SAC/SPA/Ramsar sites a Habitats Regulations Assessment will also required. You can find further information on the Welsh Government website: Habitats regulations assessments: protecting a European site [HTML] | GOV.WALES

You can find further information on protected areas in Appendix 1

Step 3: Consider the potential in combination and/or cumulative impacts

Q2.3 Can the risk of deterioration or prevention of achieving water body objectives from in combination and/or cumulative effects be ruled out?

It is important to consider the in combination and/or cumulative effects of current pressures in a water body with the impacts of your proposal.

Cumulative impacts are the effect of similar impacts from multiple activities on a water body. For example, this could be where suspended marine sediments are released via your activity and other similar activities.

In-combination effects are where a water body may be affected by one or more activities but in different ways. For example, a water abstraction reducing dilution capacity and exacerbating effects of a water discharge. These combined impacts should be considered in terms of the risk of deterioration to the quality element.

You can check for other permits on our website: Natural Resources Wales / Check for a permit, licence or exemption (Public Register), additional information is available on Data catalogue | DataMapWales (gov.wales).

Step 4: Overall scoping summary

Provide a summary of any potential risks from your proposal which may cause deterioration or prevent a water body or protected area from meeting its objectives either alone or in combination.

You must list all avoidance measures that have been included in your proposal.

Progress to Stage 3 detailed assessment where scoping identifies:

- there is a risk that receptors or elements within a water body/water bodies and or protected areas could be negatively impacted by the proposal
- or where there is any uncertainty.

If you haven't identified any elements or receptors at risk during scoping, you don't need to continue to Stage 3 detailed assessment and your WFD Regulations compliance assessment is complete.

Appendix 1

Protected Area Objectives

The WFD Regulations 2017 Compliance Assessment must ensure that the proposed activity/project will not prevent the protected area from achieving its objectives (WFD Regulation 13).

You can find more information about protected areas:

- in the RBMP Overview Annex
- the Protected Area Register is available on our website
- the layers are available on Water Watch Wales

Drinking Water Protected Areas

The objectives for Drinking Water Protected Areas (DrWPA) are to ensure that:

- under the water treatment regime applied, the drinking water produced meets the requirements of the Water Supply (Water Quality) Regulations 2018 and the Private Water Supplies (Wales) Regulations 2017 to ensure drinking water is free from contamination.
- the necessary protection to achieve the aim of avoiding deterioration in the water quality in DrWPAs in order to reduce the level of purification treatment required.

Shellfish Water Protected Areas (economically significant species)

Shellfish Water Protected Areas (SWPAs) are areas requiring protection or improvement to support shellfish life and growth. The additional objective for SWPA is a microbial standard of 300 or fewer E. coli per 100ml of shellfish flesh.

Impacts on SWPA can stem from:

- direct inputs of bacteria from point sources, diffuse sources or resuspension of sediments.
- indirect consequences of sediment suspension via resuspended sediment and a reduction in UV radiation due to elevated suspended sediment.

- elevation of suspended sediments which can hinder feeding and lead to smothering.

Classification zone maps for England and Wales can be found here: Classification zone maps - Cefas (Centre for Environment, Fisheries and Aquaculture Science) – these show whether the beds are at class A, B, B long term, or C.

Bathing Waters (Recreational Waters)

The objective for Bathing Waters is to achieve at least 'sufficient' standard and to take realistic and proportionate measures to increase the number of bathing waters meeting the 'good' or 'excellent' standards.

Impacts on Bathing Waters can stem from:

- direct inputs of bacteria from point sources, diffuse sources or resuspension of sediments.
- indirect consequences of sediment suspension via resuspended sediment and a reduction in UV radiation due to elevated suspended sediment.

Where an activity could have an impact on a Bathing Water, we generally recommend works are undertaken outside of the Bathing Water season (May 15 to September 30). Up to date Bathing Water quality can be found on our website Natural Resources Wales / Bathing water quality or for Wales and England here: Find a bathing water (data.gov.uk).

Urban Waste Water Treatment Regulations (UWWTR) Nutrient Sensitive Areas

The general objective of the UWWTD and the Urban Wastewater Treatment (England and Wales) Regulations 1994 is to protect the environment from the adverse effects of urban waste water discharges and waste water discharges from certain industrial sectors. This is to be achieved by ensuring that discharges from relevant urban waste water treatment plants meet the appropriate emission standards set out in the regulations.

For areas affected by eutrophication this includes phosphorus and/or nitrogen reduction measures.

There are also Bathing Waters and Shellfish Waters that are Nutrient Sensitive Areas under the UWWTR.

You can find maps on Water Watch Wales.

Water dependant SACs, SPAs and Ramsar sites

Objectives for water dependant SACs, SPAs and Ramsar's are to maintain or restore designated features to favourable conservation status. Site details can be found on our website: Natural Resources Wales / Find protected areas of land and sea.

Activities which have the potential to impact on SACs and SPA sites will require a Habitats Regulations Assessment (HRA).

Key point: The WFD Regulations 2017 require that an activity will not prevent achievement of protected area objectives (Regulation 13).

Other useful resources

1. Clearing the Water for All. Environment Agency. How to assess the impact of your activity in estuarine (transitional) and coastal waters for the Water Framework Directive (WFD). Water Framework Directive assessment: estuarine and coastal waters - GOV.UK (www.gov.uk)

2. Water Framework Directive risk assessment. Environment Agency. Assessing the risk to RBMP objectives from flood risk activities. Carrying out some flood risk activities can affect the quality of water within our rivers, as well as physical habitat and the ecology it sustains.

3. Advice Note Eighteen: The Water Framework Directive | National Infrastructure Planning (planninginspectorate.gov.uk)

4. You can find good practice on minimising the risk of silt pollution in GOV.UK: Sediment Matters; Guidance for Pollution Prevention

5. The role of wetlands in helping to achieve the environmental objectives

Pressures on naturally occurring wetlands (for example, physical modification or pollution) can result in impacts on the ecological status of water bodies. Wetlands can achieve three primary functions habitat creation, flow attenuation and water quality improvements. In appropriate circumstances, wetland creation and enhancement can offer sustainable, cost-effective, and socially acceptable mechanisms for helping to achieve the environmental objectives of the RBMP. You can find more information in: The role of wetlands in the Water Framework Directive Guidance Note 12

In particular, wetlands can help to:

- abate pollution impacts
- contribute to mitigating the effects of droughts and floods
- achieve sustainable coastal management, and
- promote groundwater re-charge.

Further information on INNS

Carrying out effective biosecurity using the Check Clean Dry » NNSS approach will help prevent the spread of invasive plants and animals in Welsh waters. You can find out more about INNS and biosecurity on the GB Non-native Species Secretariat website: Home » NNSS (nonnativespecies.org)

Actions which cause the spread of certain INNS could lead to litigation or may constitute an offence (under Section 14 the Wildlife and Countryside Act 1981 or Article 3 of the Invasive Alien Species (Enforcement and Permitting) Order 2019).

Undertaking a biosecurity risk assessment and plan will provide an opportunity to identify and reduce these risks. Your project should have a biosecurity risk assessment/plan as a matter of course. You can use the biosecurity risk assessment and plan template to help you complete your assessment. You can request a copy of the template from: WFDWales@cyfoethnaturiolcymru.gov.uk.

For complex large-scale projects, it may be necessary to develop a more in-depth biosecurity plan using guidance on the NNSS website. A blank risk assessment form can be downloaded free from: Guidance store » NNSS

You can find more information about INNS distribution in Wales on the NBN Atlas Wales INNS

You can report INNS:

- using the iRecord app
- online via the iRecord website
- via the bilingual LERC Wales App - Record any species on the go

NRW have specific information on Japanese Knotweed: Natural Resources Wales / Japanese knotweed: what you need to know

NRW contact details

Call us on 0300 065 3000 (Mon-Fri, 9am-5pm). We welcome calls in Welsh or English.

Send us a message on enquiries@naturalresourceswales.gov.uk

Or complete the contact us form.