

Appendix 14.7: Public Water Supply Assessment

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1 Introduction

This Public Water Supply Assessment is an Appendix to **Chapter 14: Hydrology, Hydrogeology and Peat** and has been prepared by Fluid Environmental Consulting (Fluid) on behalf of the Applicant to support the Environmental Statement (ES) for Scout Moor Wind Farm (the 'Project for Assessment'). The Assessment Boundary (**Figure 14.1: Hydrological Setting** of the ES) is located in the South Pennines, between Rawtenstall and Rochdale in North West England. Access to the Assessment Boundary is proposed via the A56 / A680, followed by minor roads to the west of the Assessment Boundary.

The Proposed Development will comprise 12 wind turbines, with a blade tip height of up to 180 m, associated infrastructure and ancillary development.

This assessment covers an area including the Assessment Boundary of the Project for Assessment and a surrounding ~1km buffer area (**Figure 14.7.1: Public Water Supply Overview (During Construction)**) where hydrological connectivity to the Assessment Boundary is possible.

1.1 Environmental Context

The Assessment Boundary consists mainly of open moorland, historically used for sheep grazing. It is situated within the South Pennines, with areas of upland heath and peatland. The existing Scout Moor Wind Farm lies west of the Assessment Boundary. A review of Ordnance Survey mapping and aerial imagery (Google, 2026) indicates that the Assessment Boundary is located on the slopes south of Cowpe and north of Ashworth Moor, reaching a high point of 477m AOD at Tottington Higher End Moor. Much of the Assessment Boundary consists of a gently sloping summit-like plateau at the top of surrounding slopes.

The geology of the Assessment Boundary is underlain by a combination of the Upper Haslingden Flags, Rossendale Formation, Pennine Lower Coal Measures Formation, and Woodhead Hill Rock. The northern and southern areas of the Assessment Boundary are predominantly underlain by the Pennine Lower Coal Measures Formation and Woodhead Hill Rock, which consist of interbedded grey mudstone, siltstone, sandstone, and coal seams. In contrast, the eastern, western, and parts of the central areas are dominated by the Upper Haslingden Flags and Rossendale Formation.

The Assessment Boundary is underlain by superficial deposits of Quaternary age, including areas of peat and a small portion of Diamicton Head. Peat is present around the Assessment Boundary in several relatively large patches.

1.2 Hydrological Setting

The Assessment Boundary features a drainage network with multiple watercourses flowing towards public supply reservoirs (**Figure 14.7.1: Public Water Supply Overview (During Construction)**). The overall hydrological setting is presented in **Chapter 14**.

In the east of the Assessment Boundary, surface water drains towards Spring Mill Reservoir via Fern Isle Brook, Prickshaw Brook, and other tributaries; and towards Cowm Reservoir via Walstead Clough and other tributaries including the area of the Britannia Quarries to the east of the Assessment Boundary. Both the Spring Mill Reservoir and the Cowm Reservoir discharge to the River Spodden, part of the River Irwell catchment.

The central southern area drains to Naden Upper Reservoir, with flow routes including Naden Brook, Little Ding, Ding Clough, which subsequently drains to Naden Middle Reservoir, Nadden Lower Reservoir and Greenbooth Reservoir. The Greenbooth Reservoir discharges to Naden Brook and then the River Roch, part of the River Irwell catchment.

A small portion of the west of the Assessment Boundary drains towards Scout Moor Reservoir via a minor watercourse along the Assessment Boundary. Scout Moor Reservoir then drains via Dearden Brook to the River Irwell.

In the northern central part of the Assessment Boundary, some drainage flows to Cowpe Reservoir which subsequently discharges to the River Irwell via an unnamed tributary.

1.3 Scope of Works

The purpose of this Public Water Supply Assessment is to:

- Identify any Public Water Supplies (reservoirs) that could have a hydrological or hydrogeological link to the Project for Assessment;
- Analyse the catchments of these reservoirs in relation to the Project for Assessment, including identification of infrastructure located within the catchments;
- Identify areas within each catchment where peatland restoration can be undertaken, and evaluate how such measures may contribute to improving hydrological function and water quality;
- Assess potential effects on the water supply in downstream reservoirs associated with construction and operation of the Project for Assessment, including potential colouration of runoff — a known issue in upland developments such as wind farms;
- Inform layout design and construction planning in relation to catchment sensitivities;
- Recommend appropriate mitigation measures to reduce the likelihood of any adverse impacts; and
- Propose monitoring of key watercourses that contribute to public water supply reservoirs to detect any changes in water quality (including colour) or flow throughout the construction, operational and decommissioning stages.

1.4 Limitations

This assessment is based on publicly available data on public water supply reservoirs, consultation with relevant authorities, hydrological and hydrogeological mapping, and peat habitat and condition mapping. While the locations of public water supplies and catchment extents are well established, limitations include:

- Potential gaps in publicly available data regarding specific intake points, abstraction volumes, and flow dynamics within contributing catchments;
- Seasonal variations in water levels and flow conditions that may not be fully captured in the current assessment;

- Limited detail at this stage on construction methodologies and phasing, which constrains the ability to predict potential short-term effects such as runoff colouration or sediment mobilisation;
- Uncertainty regarding the effectiveness and implementation timeline of proposed mitigation or peatland restoration measures, particularly where these intersect with sensitive catchments;
- Potential future changes in land use or catchment characteristics that could influence hydrological connectivity and water quality over time.

This assessment reflects the best available understanding at this stage of project development. Further consultation, site-specific monitoring and detailed design input may be required to confirm assumptions and refine mitigation planning in relation to public water supply catchments.

1.5 Legislation, Policy and Guidance

The main legislative drivers, relevant to the assessment are:

- **The Water Industry Act 1991¹:**

This Act sets out the responsibilities of water companies in England and Wales, including the duty to provide a secure and wholesome supply of water to the public. It also outlines powers for monitoring, enforcement, and protecting water sources from contamination.

- **The Water Supply (Water Quality) Regulations 2016²:**

These regulations set standards for water quality to ensure that water supplied for domestic or food production purposes is wholesome.

They apply to water companies and private suppliers, outlining requirements for sampling, testing, and maintaining water quality.

- **The Environment Agency's Approach to Groundwater Protection³:**

This guidance outlines the Environment Agency's position on protecting groundwater from pollution and over-abstraction.

It serves as a framework for assessing risks to groundwater and provides best practices for managing activities that may impact groundwater quality and quantity.

2 Public Water Supplies

The public water supply reservoirs within the vicinity of the Project for Assessment are in line surface water reservoirs that have been constructed to capture flows directly from surface watercourse.

¹ **The Water Industry Act 1991, c.56.** Available at: <https://www.legislation.gov.uk/ukpga/1991/56/contents> (Accessed April 2026).

² **The Water Supply (Water Quality) Regulations 2016** – Available at: <https://www.legislation.gov.uk/uksi/2016/614/contents> (Accessed April 2026).

³ **Environment Agency (2018). The Environment Agency's Approach to Groundwater Protection** – Available at: <https://assets.publishing.service.gov.uk/media/5ab38864e5274a3dc898e29b/Environment-Agency-approach-to-groundwater-protection.pdf> (Accessed April 2026).

The locations of these public water supplies and their associated catchments based on the topography and hydrogeological regime are shown on **Figure 14.7.1** and include:

- Naden Upper Reservoir and the associated lower reservoirs that are connected;
- Spring Mill Reservoir;
- Cowm Reservoir;
- Cowpe Reservoir; and
- Scout Moor Reservoir.

The reservoirs are all managed by United Utilities for potable water supply and are associated with Water Treatment Plants in order to achieve water quality standards.

All the reservoirs are classified under moderate ecological status. This classification is part of the Water Framework Directive (WFD) assessment, which evaluates water bodies based on their ecological health.

A "moderate" ecological status means that the water body is functioning reasonably well but is somewhat impaired by human activities or environmental factors. While it can still support most aquatic life and habitats, certain pressures (such as nutrient enrichment, sedimentation, or pollution) are affecting the ecosystem. In the case of reservoirs, this could involve moderate impacts on aquatic flora and fauna, water chemistry, or sediment levels.

This status indicates that improvements can be made, and the proposed restoration measures, such as peatland restoration, aim to reduce disturbances and improve water quality

3 Public Water Supply Assessment Methodology

The Public Water Supply Assessment has been undertaken using a catchment-based approach and draws on the following key steps:

- **Identification of Relevant Catchments:** Public water supply reservoirs located within or downstream of catchments intersected by proposed development infrastructure were identified through review of OS mapping and Environment Agency, and consultation with the Applicant.
- **Desktop Hydrological & Hydrogeological Assessment:** Existing mapping and site information were reviewed to understand surface water and groundwater flow paths within each catchment, as well as the proximity and nature of proposed development infrastructure (e.g. turbines, compounds, tracks) that could interact with water supply routes.
- **Integration of Peat Condition Data:** The results of the peat condition assessment were used to help characterise each catchment and to inform opportunities for peatland restoration measures, particularly where these could enhance the overall water quality entering supply reservoirs.
- **Catchment Walkovers and Field Observations:** Site visits were used to observe watercourse locations, assess connectivity between infrastructure and key inflows, and validate assumptions made in the desktop assessment. Particular attention was given to identifying any locations where construction activities (e.g. watercourse crossings, cut-and-fill near sensitive drains) may influence runoff into reservoir catchments.

- **Catchment Analysis and Preliminary Impact Review:** For each reservoir, an assessment was made of the infrastructure present within the contributing catchment, the potential for hydrological or hydrogeological connectivity, the implications of peatland condition and restoration, and any anticipated construction-stage issues (e.g. changes to runoff colour or turbidity from disturbed soils or drainage).
- **Recommendations for Monitoring and Mitigation:** Where catchments include sensitive inflows, recommendations are made for construction-stage monitoring of flow and water quality, and for targeted peatland restoration and mitigation where this could improve catchment resilience or reduce the risk of water quality impacts.

This methodology ensures that the assessment considers both the potential risks posed by infrastructure and the opportunities for environmental enhancement, particularly within peat-dominated upland catchments that support public water supply reservoirs.

3.1 Desk Based Review

The desk-based assessment reviewed a range of secondary data sources to build a detailed understanding of the hydrological, hydrogeological, and peatland context surrounding the Project for Assessment. These sources were used to identify the contributing catchments to public water supply reservoirs and evaluate the potential interactions between site infrastructure, peat condition, and surface water flow.

The assessment included:

- **Geological and Hydrogeological Information:** Data obtained from the British Geological Survey (BGS) and relevant hydrology and hydrogeology mapping was used to establish baseline conditions and evaluate the potential for subsurface flow pathways.
- **Catchment and Sub-Catchment Mapping:** Surface water catchment boundaries were delineated using OS mapping, topographic analysis, and existing reservoir supply data to determine which areas of the Project for Assessment fall within key public water supply catchments.
- **Peatland Habitat, Condition and Restoration Data:** Outputs from the site-specific peat condition assessment were reviewed to help characterise the baseline state of the contributing catchments. This information has informed an understanding of potential improvements in catchment function through restoration.
- **Assessment of Infrastructure and Drainage Features:** The layout of proposed infrastructure (e.g., turbines, access tracks, compounds) was overlaid with mapped catchments and peat data to evaluate spatial relationships and identify areas of potential interaction.

Further information on baseline hydrological, hydrogeological and peat conditions can be found in **Chapter 14: Hydrology, Hydrogeology and Peat** of the ES.

3.2 Consultations

Consultation was undertaken with United Utilities who operate all the reservoirs in the area to understand their concerns. No information has been provided by United Utilities on any of the reservoirs they operate.

3.3 Site Visits

A site visit was carried out in February 2025 to assess the public water supplies potentially affected by the Project for Assessment. The hydrological features within the catchments associated with the reservoirs were examined along with the reservoir infrastructure and the location of proposed site infrastructure in relation to inflows.

3.4 Assessment Method

The methodology for assessment of public water supplies, including reservoirs and their associated tributaries, follows a tailored approach that considers the potential impacts arising from the construction, operation and decommissioning of the Project for Assessment. The approach is based on established assessment principles and incorporates Fluid Environmental Consulting's extensive experience in assessing potential effects on public water supplies from large-scale developments such as wind farms.

Unlike private water supplies, which rely on specific, localised supply sources, public water supplies and reservoirs are more complex systems, often involving multiple sources and extensive distribution networks. For this reason, the assessment of effects focuses on potential hydrological and hydrogeological connections between the Project for Assessment and these supplies, considering the nature of the reservoirs, their inflows, and their proximity to the Assessment Boundary.

The Source-Pathway-Receptor conceptual model forms the core of the assessment of effects process for public water supplies, as follows:

- **Source:** Refers to the water supply source, such as a reservoir or tributary, and any potential contamination sources related to the development.
- **Pathway:** Refers to the mechanisms (e.g., surface water flows, groundwater movement, infrastructure) that could transmit contaminants from the development area to the water supply source.
- **Receptor:** Refers to the public water supply system, including the reservoir and any related infrastructure that could be affected by contamination or disruption.

In cases where a hydrological or hydrogeological pathway links a potential contamination source to a public water supply receptor, a pollutant linkage and associated risk are identified. Where there is no direct connection, such as in cases where the water supply is sufficiently distant or separated by natural barriers, there is no risk.

The key factors considered in the assessment include:

- Proximity of the water supply source (reservoir or tributary) to the nearest construction activities associated with the Project for Assessment;
- Hydrological connectivity between the development area and the public water supply system, taking into account surface water and groundwater flow dynamics; and

- Impact potential based on the nature of the works being undertaken, including excavation, construction, and operational activities, that could result in sedimentation, contamination, or disruption to the water supply.

For the assessment of public water supplies and reservoirs, the assessment methodology assumes a worst-case scenario in terms of impact, considering the greatest potential disruption to water quality and quantity. The topographical and hydrogeological relationships between the Project for Assessment and public water supplies are critical in determining the likelihood and severity of potential impacts.

The PLHRA (**Appendix 14.4**) identifies a Low to Very Low likelihood of peat instability across the site, with all associated risks assessed as Low to Negligible. Runout analysis indicates that any potential peat movement would not reach watercourses or would be supply-limited prior to doing so. Therefore, no credible risk to public water supplies from peat landslides, including via sediment transport, has been identified.

The assessment further takes into account the following:

- Type of water supply system (reservoir or tributary) and the potential for contamination, disruption or reduction of supply from construction activities.
- Distance and location of the water supply in relation to the construction works, considering both surface water and groundwater connectivity.
- Catchment and flow dynamics, ensuring that any potential pollutants could be transported from the Assessment Boundary to the public water supply sources.

This methodology ensures that the risk to public water supplies is assessed in a robust and comprehensive manner, focused on the most likely and significant hazards based on proximity and hydrological connectivity to the Project for Assessment. The findings will be further detailed in **Chapter 14** of the ES.

3.5 Receptors

For public water supplies, the receptors are primarily the water supply infrastructure and the populations that rely on the water for various uses, including domestic, commercial, industrial, and agricultural purposes. The water supply systems are designed to serve large groups of consumers, often covering entire towns or districts, and providing water for potable drinking purposes, sanitation, irrigation, and industrial processes.

The most sensitive receptor category in this context is the human population that relies on the water supply for drinking and sanitation. As with private water supplies, it is assumed that any public water supply system can be used for domestic potable supply unless specifically stated otherwise. In addition to the domestic consumption of drinking water, the water supply also supports other essential services and activities, including agriculture, livestock watering, and industrial uses, all of which could be impacted by changes to water quality or quantity.

The infrastructure of public water supplies, including reservoirs, pumping stations, distribution networks, and treatment plants, also constitutes a receptor. These systems rely on consistent, clean water supplies and could be affected by the construction, operational and decommissioning activities of the Project for Assessment. Impacts to these systems may disrupt water supply and treatment processes, potentially leading to service interruptions, changes in water quality, or additional treatment requirements.

As part of a conservative approach, the assumption is made that any public water supply that could be affected by the Project for Assessment may impact domestic potable water use, which is considered the most sensitive receptor. While industrial and agricultural uses may have some tolerance for temporary water quality changes, human consumption is the highest priority and most critical receptor in these assessments.

Thus, the assessment of effects for public water supplies focuses primarily on protecting water sources, infrastructure, and human health, ensuring the continued safe delivery of potable water to all users within the service area.

3.6 Screening of Supplies

The initial desk-based review of potential public water supplies (PWS) identified several reservoirs and associated water courses potentially linked to the Project for Assessment. A screening assessment was completed on these public water supplies based on the available information, including the locations of reservoirs, watercourses, and surrounding infrastructure.

The screening assessment focused on the proximity of public water supplies and their associated infrastructure to the disturbed areas anticipated from the Project for Assessment, in order to eliminate supplies that would not be hydrologically or hydrogeologically connected.

The screening exercise excluded public water supplies where no potential hydrological or hydrogeological connectivity exists. This was determined through consideration of the following factors:

- Catchment boundaries and river or stream networks that may affect water flow and distribution.
- The properties of the underlying superficial and bedrock geology, which influence groundwater flow and aquifer connectivity.
- Dominant land uses within the area, which can impact both surface and groundwater movement.
- Topographical features, including the natural flow paths of water and elevation changes that could affect drainage and runoff.
- Proximity to proposed development infrastructure.

Following this screening process, public water supplies that are unlikely to be impacted by the Project for Assessment were excluded from further assessment.

4 Hydrological and Water Quality Benefits of Peatland Restoration

Restoration of degraded peatlands has been widely recognised as an effective nature-based solution for improving catchment health and safeguarding public water supplies. Degraded peatlands, particularly where historic drainage or land use (such as mining or grazing) has led to bare or eroding peat, can contribute significantly to water discolouration and elevated dissolved organic carbon (DOC) levels in watercourses. These impacts can result in increased treatment requirements at downstream reservoirs and water treatment works. In addition to water quality improvements, restoration can deliver broader benefits including erosion control, flow regulation, and habitat recovery.

Recent UK case studies demonstrate these benefits in comparable upland catchments:

- **Exmoor Mires Project (South West England):** Restoration of drained peatland across 714 ha resulted in increased water storage capacity (approx. 260,000 m³), reduced storm flow production to ~32% of pre-restoration levels, and a shallower groundwater table. While no significant reductions in DOC or colour concentrations were observed, lower peak flows are expected to reduce the overall flux of DOC entering downstream reservoirs, contributing indirectly to improved water quality management⁴.
- **Holcombe Moor, Lancashire:** Restoration on National Trust land reduced peat erosion and helped retain rainfall, improving both water quality and flow buffering in the Irwell catchment⁵.
- **Ben Wyvis, Scotland:** Blocking of artificial drains and re-vegetation of eroded areas resulted in reduced sediment and DOC delivery to the River Peffery, which supplies local reservoirs⁶.

These examples support the wider evidence base that peatland restoration can contribute to reducing water quality pressures on public supply reservoirs, particularly in upland areas with a legacy of land disturbance.

The peatland restoration measures proposed have therefore been included in the assessment of effects for each reservoir.

5 Assessment of PWS Potentially Connected to the Project for Assessment

A detailed assessment has been carried out for each identified public water supply (reservoir) potentially connected to the Project for Assessment. The following explains the logic for inclusion or exclusion of each reservoir in **Chapter 14**, based on hydrological and hydrogeological connectivity, as well as the presence of infrastructure within each catchment:

Naden Upper Reservoir:

Naden Upper Reservoir is located to the south of the Assessment Boundary and is part of the local public water supply network. It is fed by Naden Brook and an unnamed tributary, both of which originate within or near the Assessment Boundary. While the reservoir itself is located over 500 m from the nearest infrastructure, elements of the Project for Assessment lie within the reservoir's catchment, all over 50m from any tributary, indicating potential hydrological connectivity with the reservoir's supply network.

Within the catchment, three turbines (T6, T7, and T8), associated hardstanding, as well as part of turbine T3 hardstanding and associated access tracks are proposed, all of which are situated upslope of the tributaries that contribute to the reservoir's inflow.

- The catchment area of Naden Upper Reservoir is approximately **3,926,167 m²**.

⁴ NWRM (2014). *Exmoor Mires Peatland Restoration*. Available online at: [Exmoor Mires peatland restoration, UK | Natural Water Retention Measures](#)

⁵ National Trust (2021). *Restoring Peat on Holcombe Moor and Stubbins Estate*. Available online at: [Peatland restoration Holcombe Moor | National Trust](#)

⁶ NatureScot (2021). *Peatland Action Case Study: Ben Wyvis*. Available online at: [Peatland ACTION - Case studies | NatureScot](#)

- The total proposed development footprint (including temporary and permanent infrastructure) within the catchment is approximately 40,099 m², representing about **1%** of the catchment area.
- The permanent infrastructure footprint is approximately 21,329 m², representing about **0.5%** of the catchment area.

Peatland restoration is proposed in the north and central areas of the catchment to help mitigate potential hydrological impacts and improve the current conditions. The restoration measures include:

- **Gully reprofiling buffers** – 162,840 m²
- **Plug planting and spot turving** – 77,764 m²
- **Patch repair** – 4,018 m²
- **Flailing, bunding and plug planting (hollows)** – 87 m²

These restoration measures comprise 244,708m² (6.2% of the catchment) and are expected to reduce surface erosion, enhance the retention of water and particulate matter, and improve overall catchment resilience. The areas designated for restoration methods, along with the post-construction infrastructure footprint, are illustrated in **Figure 14.7.2**. This provides a clear overview of the proposed restoration interventions and the spatial distribution of infrastructure following construction.

Due to the proximity of infrastructure to tributaries and the location within the reservoir catchment, Naden Upper Reservoir is included in the assessment of effects in Chapter 14, where potential effects are further evaluated.

Spring Mill Reservoir:

Spring Mill Reservoir is located to the east of the Assessment Boundary, approximately 800 m from the nearest proposed development infrastructure. It is fed by Prickshaw Brook and an unnamed southern tributary, both of which enter the reservoir at its southeastern corner. Several tributaries of Prickshaw Brook lie within the Assessment Boundary however all infrastructure is located over 50m distant, indicating potential hydrological connectivity between site infrastructure and the reservoir's water supply network.

The catchment area for Spring Mill Reservoir is approximately 2,786,945 m². Within this catchment:

- Three turbines (T1, T3, and T4) are fully located.
- An access track runs through the catchment, linking turbine locations.

In terms of area:

- The total proposed development footprint (including both temporary and permanent infrastructure) is approximately 67,095 m², representing about **2.4%** of the catchment.
- The permanent infrastructure footprint is approximately 27,071 m², or **1%** of the total catchment area.

Peatland restoration is proposed within the northern and central parts of the catchment, with the goal of reducing erosion, enhancing water quality, and limiting sediment transport. The planned measures include:

- **Drain blocking** – 136,990 m²
- **Flailing, bunding and plug planting (hollows)** – 13,701 m²

These restoration measures comprise 150,691m² (5.4% of the catchment area) and are expected to slow runoff, improve hydrological function, and support downstream water quality. The areas designated for restoration methods, along with the post-construction infrastructure footprint, are illustrated in **Figure 14.7.2**. This provides a clear overview of the proposed restoration interventions and the spatial distribution of infrastructure following construction.

Given the combination of infrastructure presence within the catchment, proximity to tributaries, and the potential for hydrological interaction, Spring Mill Reservoir is included in the assessment of effects in Chapter 14, where associated effects are considered.

Cowm Reservoir:

Cowm Reservoir is situated to the northeast of the Assessment Boundary, approximately 1.8 km from the nearest proposed development infrastructure. It is fed primarily by Cowm Brook, which enters the reservoir from the north. The brook's main tributary originates from a disused quarry and is located over 1 km from the Project for Assessment, reducing the likelihood of a direct surface water connection.

Nonetheless, the Cowm Reservoir catchment overlaps with the Assessment Boundary. Within this catchment, Turbine T16, part of Turbine T9 and a construction compound are located, introducing potential pathways for surface runoff or land disturbance that may indirectly affect the reservoir's inflow system.

The total catchment area of Cowm Reservoir is approximately 4,315,097 m². Within this catchment:

- The total proposed development infrastructure footprint (including both temporary and permanent works) is approximately 32,798 m², representing about **0.76%** of the catchment.
- The permanent infrastructure footprint is approximately 1,934 m², representing about **0.1%** of the catchment.

Peatland restoration measures are planned within this catchment, targeting areas in the south and south-central zones. These interventions are designed to reduce sediment mobilisation and water discolouration downstream. The restoration works include:

- **Flailing, bunding and plug planting (flats)** – 77,991 m²
- **Flailing, bunding and plug planting (hollows)** – 24,375 m²
- **Drain blocking** – 85,492 m²

The restoration measures total 187,858 m² (4.4% of the catchment area) and, along with the post-construction infrastructure footprint, are illustrated in **Figure 14.7.2**. This provides a clear overview of the proposed restoration interventions and the spatial distribution of infrastructure following construction.

Given the overlap of infrastructure within the Cowm Reservoir catchment and the potential for indirect hydrological effects, the reservoir is included in the assessment presented in Chapter 14, where effects are considered.

Cowpe Reservoir:

Cowpe Reservoir is located to the north of the Assessment Boundary, approximately 700 m from the nearest proposed development infrastructure. The reservoir receives water from two unnamed tributaries entering from the south. One of these tributaries originates from a surface water feature approximately 550 m from the infrastructure, while the other lies around 590 m away at its closest point.

No proposed development infrastructure is proposed within this area.

The total catchment area of Cowpe Reservoir is approximately 1,036,713 m². Within this catchment:

Peatland restoration measures are proposed in the higher southern sections of the catchment to improve slope stability and reduce sediment-laden runoff. The restoration types and extents are:

- **Plug planting and spot turving** – 87,663 m²
- **Patch repair** – 440 m²
- **Gully reprofiling buffers** – 98,335 m²

The areas designated for restoration methods total 186,439 m² (18.0% of the catchment area), along with the post-construction infrastructure footprint, are illustrated in **Figure 14.7.2**. This provides a clear overview of the proposed restoration interventions and the spatial distribution of infrastructure following construction.

Due to the proximity of the reservoir's inflows to proposed development infrastructure, Cowpe Reservoir will be included in the assessment presented in Chapter 14 as a conservative measure.

Scout Moor High Level Reservoir:

Scout Moor High Level Reservoir is located to the west of the Assessment Boundary, approximately 270 m from the nearest proposed development infrastructure to the east of the reservoir. It receives inflow from a single main stream entering from the southeast. Tributaries feeding this inflow cross the Assessment Boundary at two locations where access track construction is proposed.

Turbines T14 and T16 are located within the reservoir's catchment, along with access track. The presence of these elements introduces a potential pathway for surface runoff and ground disturbance affecting the reservoir's inflow network.

The total catchment area of Scout Moor High Level Reservoir is approximately 748,850 m². Within this catchment:

- The total proposed development infrastructure footprint (including both temporary and permanent works) is approximately 27,792 m², representing about **3.7%** of the catchment area.

- The permanent infrastructure footprint is approximately 7,660 m², representing about 1% of the catchment area.

Peatland restoration measures proposed within this catchment aim to reduce erosion and improve hydrological function. These include:

- **Plug planting and spot turving** – 26,003 m²
- **Patch repair** – 2,873 m²
- **Gully reprofiling buffers** – 97,457 m²
- **Bog recreation** – 611 m²

The restoration measures total 126,946 m² (17% of the catchment area), along with the post-construction infrastructure footprint, are illustrated in **Figure 14.7.2**. This provides a clear overview of the proposed restoration interventions and the spatial distribution of infrastructure following construction.

Given the direct interaction of proposed development infrastructure with tributaries and the presence of turbines and access tracks within the catchment, Scout Moor High Level Reservoir will be included in the Chapter 14 assessment to evaluate potential hydrological effects.

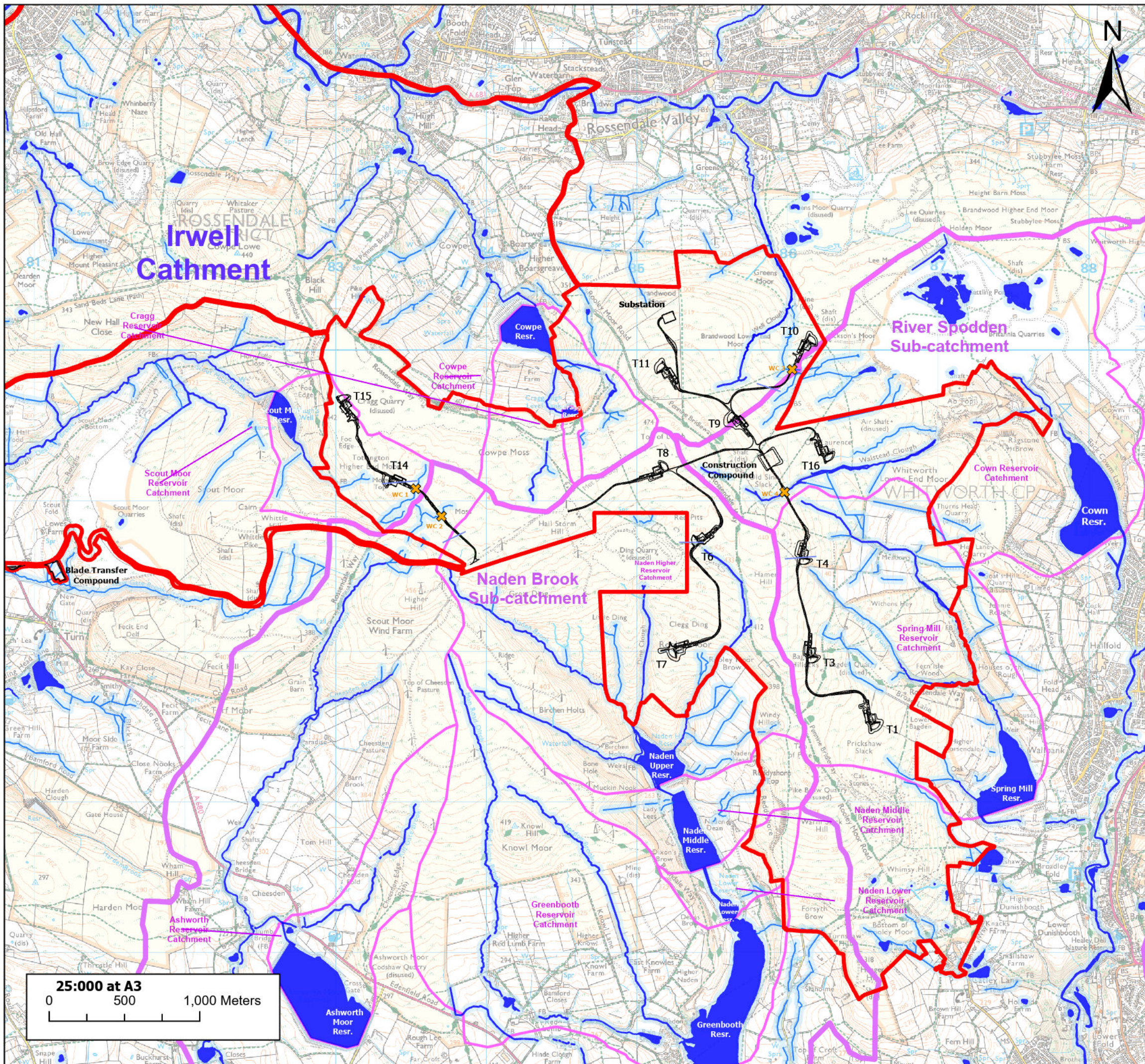
6 Conclusion

A detailed assessment of effects has been conducted for the identified public water supplies (reservoirs) potentially connected to the Project for Assessment. Naden Upper, Spring Mill, Cowm, Cowpe, and Scout Moor High Level reservoirs have been included in the assessment due to the presence of infrastructure within their catchments and/or the potential for hydrological connectivity (**Figure 14.7.1**). These reservoirs are assessed further in Chapter 14, where associated effects and mitigation measures are evaluated in detail.

In addition to the proposed infrastructure, several areas within the reservoir catchments have been identified for peatland restoration (**Figure 14.7.2**). Restoration measures in these catchments include flailing, bunding, plug planting, gully reprofiling, and drain blocking, as well as bog recreation in certain areas. These measures are expected to enhance natural hydrological function, improve water quality, and contribute positively to the overall environmental condition of the catchments. The implementation of these restoration works forms an important part of the development strategy and will be taken into account in the overall assessment.

This approach ensures that the assessment focuses on all reservoirs with a realistic potential to be affected by the development, while also considering areas where beneficial environmental outcomes are anticipated. Evidence from comparable UK catchments suggests that peatland restoration can contribute to improved raw water quality, primarily through reduced runoff rates and sediment transport. While direct reductions in dissolved organic carbon (DOC) and colour are not always consistent, the overall effect of restoration—such as slowing storm flows and increasing water retention—can help moderate the delivery of DOC and particulates to reservoir supplies, supporting long-term water treatment goals⁴.

Figures



Assessment Boundary

Infrastructure

Turbine Locations

Infrastructure Layout

Floating Track

Watercourse Crossings

Hydrological Features

Watercourses (1:50K OS Map)

Watercourses (1:25K OS Map)

Watercourses (1:10K OS Map)

Standing Surface Water

Buffer 30 m

Irwell River Sub-catchments

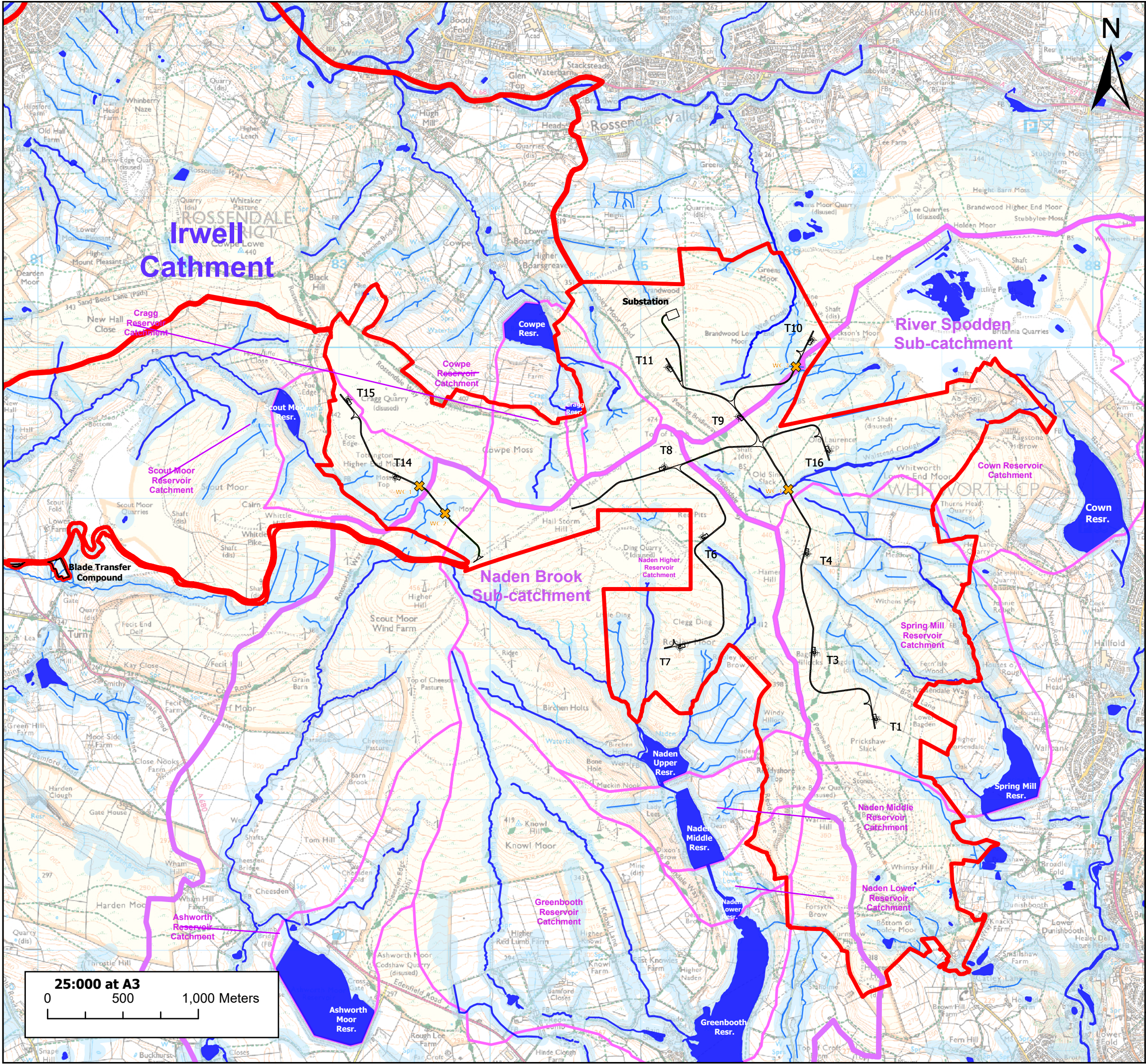
Reservoir Catchments

Contains OS data © Crown copyright Open Data 2026.
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Project Name:

SCOUT MOOR II

Figure 14.7.1:
**Public Water Supply Overview
(During Construction)**



Assessment Boundary

Infrastructure

- Turbine Locations
- Infrastructure Layout
- Floating Track
- Watercourse Crossings

Hydrological Features

- Watercourses (1:50K OS Map)
- Watercourses (1:25K OS Map)
- Watercourses (1:10K OS Map)
- Standing Surface Water
- Buffer 50 m
- Irwell River Sub-catchments
- Reservoir Catchments

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Project Name:

SCOUT MOOR II

Figure 14.7.2:
**Public Water Supply Overview
(Post-Construction)**