

Booklet 5 Guide to Recording Waterbodies in Rhondda Cynon Taf



Rhondda Fawr river © Amy Hicks

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Rhondda Cynon Taf Habitats Mapping Project

In order to conserve and enhance our biodiversity we need up-to-date information about habitats and species. Understanding habitats is fundamental to understanding how to protect and manage biodiversity. Between the late 1980s and the mid 1990s, the Countryside Council for Wales (now part of Natural Resources Wales) undertook a Phase I Habitat Survey of the whole of Wales. An amazing undertaking, which has proved invaluable to Welsh nature conservation. However, that information is now aging. So perhaps it is time for all of us who have an interest in finding, identifying and recording species, to start thinking about and recording their habitats as well? If that sounds interesting, and perhaps a new way to interpret and understand the biodiversity of Rhondda Cynon Taf (RCT), then read on.

Use this booklet in conjunction with the Introduction to Recording Habitats in RCT and the other 5 habitat booklets in this series.

RCT Waterbodies

In terms of Phase I Habitat Classification, freshwater habitats can be divided into running water (rivers and streams) and standing water (lakes, ponds and canals).

Running water

- **Rivers.** These are channels of water moving from a source to the sea. They vary from thin, shallow and fast flowing to broad, deep and slow flowing. The Freshwater Habitats Trust define rivers as having a channel more than 8.25 metres wide (marked as two blue lines on the UK Ordnance Survey 1:25 000 scale maps). For more information see: freshwaterhabitats.org.uk/habitats/rivers
- **Streams.** These are similar to rivers but tend to be smaller with the Freshwater Habitats Trust defining them as less than 8.25 metres wide (marked as a single blue line on the UK Ordnance Survey 1:25 000 scale maps). For more information see: freshwaterhabitats.org.uk/habitats/streams

Standing water

- **Lakes.** These large, more than 2 hectares (or 2 rugby pitches), standing bodies of water that can be natural or man-made such as reservoirs, flooded mine workings and land reclamation lakes.
- **Ponds.** These are smaller, shallower standing water bodies less than 2 hectares.
- **Canals.** These are also usually classified as standing water bodies. Canals are man-made waterways originally built for navigation, transportation or irrigation. They are long, narrow and may be very gently flowing with areas of standing water. There are only fragments of this habitat in RCT.

Why are waterbodies in RCT important?

Waterbodies provide homes to the diverse range of wildlife dependant on freshwater. Rivers and streams offer direct habitat connectivity for many of the 'riparian' species they support. RCT is a place of valleys, rivers and streams, forming complex habitat mosaics with bankside, floodplain and valley side habitats.

Identifying and recording a waterbody

If you can see water and it is flowing, it's a river or stream. If it is standing, it's a lake, pond or canal! However, if you see certain species, this may indicate how healthy the waterbody is, or the quality of the adjacent riparian habitat.

Similar Habitats

Waterbodies have strong links to wetlands including bogs, fens, swamps and flushes (see Booklet 4: Wetlands).

Use the *Introduction to Recording Habitats in RCT* booklet for step-by-step instructions on recording habitats.

Staying safe

Please take a common sense approach to recording. We do not advocate any form of trespassing, and please do not take any risks with regards to your own health and safety.

- Check the weather forecast, avoid recording in bad weather.
- Ideally avoid working alone. If not, always tell someone where you are going and when you will be back.
- Carry a mobile phone.
- Carry a basic first aid kit, and maybe a whistle for emergencies.
- Take appropriate equipment and clothing for the weather and site conditions. For example, walking boots or shoes, warm clothes, waterproofs, sunhat, suncream.
- Take an OS map, and a compass if going to remote areas. Don't rely solely on your mobile to know where you are, especially in remote and upland areas with fewer landmarks or areas with limited phone or GPS signal. An OS map may also help you map habitats within an area. If you are not confident in reading maps, stick to established routes.
- Remember to always wash your hands before eating, particularly after touching plants, animals, fungi or water. Some plants and fungi are poisonous so don't be tempted to have a nibble!
- Ticks are small invertebrates that can bite humans and spread Lyme disease. High risk places include grassy and wooded areas. To reduce risk, cover your skin, tuck trousers into socks, and use insect repellent containing DEET. Check your body for any ticks on arriving home and safely remove any as soon as possible using a tick-removal tool. If you start to feel unwell or develop a rash in the following days, consult a GP. For more information see [nhs.uk/conditions/lyme-disease](https://www.nhs.uk/conditions/lyme-disease)
- Trust your own instincts. If you feel uneasy, leave and return home.

Staying safe near waterbodies

Waterbodies are (unsurprisingly) wet and working in and around water is inherently dangerous! The following additional safety warnings are specific to waterbodies:

- The depths of rivers, streams, lakes and ponds can be deceptive, they may appear shallow but can suddenly become very deep. They may also be very cold and in the case of rivers and streams fast flowing.
- Waterbodies may contain hidden underwater obstacles and be very slippery underfoot. They may also be difficult to exit, so avoid entering them. Never enter a river in spate (flood) flow, they can be extremely dangerous!
- The waterbody may contain hazards such as broken glass, sharp metal, concrete pieces, and some waterbodies may be polluted. Make sure you wash your hands before eating or drinking.
- Be careful near the edges. Banks can be steep and unstable, and tree roots and stones may be trip hazards.
- Midges and mosquitoes love wet areas, so to reduce insect bites cover up by wearing long trousers and long sleeves!
- Weil's disease or Leptospirosis can be spread by rat urine in waterbodies. Always wash your hands before eating or drinking and cover any cuts with plasters.

Habitat Descriptions

Habitat guide symbols

The following symbols are used in the habitat guides to denote indicator species to record.



A key symbol means that a plant is a key feature of the habitat.



A hand symbol means this species is associated with the habitat, but not always present.



A beetle symbol means these animals are supported in this habitat.



This icon denotes invasive non-native species (INNS) which may cause damage to the habitat.

Rivers and Streams

RCT has a large network of rivers and streams ranging from the fast flowing upland streams and rivers, to more gentle, slow flowing lowland rivers. The water chemistry and geomorphology of all watercourses are strongly influenced by their surrounding catchment (geology, soil, vegetation), topography, altitude, climate, and their nutrient status. In RCT catchments, water pollution is still a problem.

In the uplands, streams tend to be narrow, faster-flowing and nutrient-poor. In the lowlands slow-flowing rivers are likely to be more nutrient-rich.

In natural conditions, all rivers would have a floodplain which intermittently floods. However, most rivers have had some kind of modification or development, especially in urban areas, which makes the floodplain difficult to spot (and causes urban flooding problems). In RCT, there are still some areas of important species-rich floodplain grassland, wetland and wet woodland. The riparian zone with its marginal and bankside habitats also hosts characteristic flora and fauna.



Waterfall at Penypych © Amy Hicks



The River Ely as it flows through Pontyclun © Amy Hicks

Rivers and Streams: What to look for



In upland streams, there is usually little emergent bankside vegetation and no significant pondweeds (*Potamogeton* species) so submergent vegetation is restricted to mosses such as the upland variety of the Greater Water-moss, *Fontinalis antipyretica* var. *gracilis* (see britishbryologicalsociety.org.uk/learning/species-finder/fontinalis-antipyretica).

Look for the characteristic 'pool/riffle sequences' of fast flowing water over boulder and pebbles, and intervening small, but often deep water pools where there is often a typical aquatic invertebrate fauna with caddis, may and stone flies, and Beautiful Demoiselles (*Calopteryx virgo*).



In rivers and lowland streams, you may find pondweeds, or on the River Taff in Pontypridd, Water-crowfoots (*Ranunculus* species). There may also sometimes be an intermittent emergent fringe of pond-sedges (*Carex* species), Bulrush (*Typha latifolia*) and Common Reed (*Phragmites australis*).

Semi-natural wet woodlands are a typical bankside vegetation, often with Alder (*Alnus glutinosa*) and willow (*Salix* species) scrub. In other circumstances, species-rich floodplain grassland or marshy grasslands may form along the riverbank. Where cattle graze on lowland riverbanks and create drinking places, the bare mud can be an important invertebrate habitat. The beautiful but highly poisonous Monk's-hood (*Aconitum napellus*)*, a nationally scarce species, is locally abundant on stream sides in the River Ely catchment, while Cornish Moneywort (*Sibthorpia europaea*) is a nationally uncommon species which in RCT occurs on cattle puddled stream crossings on rhôs pasture sites.



Japanese Knotweed (*Fallopia japonica*) and Himalayan Balsam (*Impatiens glandulifera*) are familiar invasive plants



Himalayan Balsam
(*Impatiens glandulifera*)

common on riverbanks, and which spread easily along these water courses.



Birds: Goosander (*Mergus merganser*), Cormorant (*Phalacrocorax carbo*), Kingfisher (*Alcedo atthis*), Grey Wagtail (*Motacilla cinerea*), Dipper (*Cinclus cinclus*), Sand Martin (*Riparia riparia*).

Mammals: Otter (*Lutra lutra*), Water Vole (*Arvicola amphibius*) occurs on upland streams within blanket bogs, and Daubenton's Bat (*Myotis daubentonii*).

Invertebrates: Golden Ringed Dragonflies (*Cordulegaster boltonii*) and Beautiful Demoiselle (*Calopteryx virgo*). Also various riverflies such as mayflies (Ephemeroptera), caddisflies (Trichoptera) and stoneflies (Plecoptera).

Fish: Atlantic Salmon (*Salmo salar*), Sea and Brown Trout (*Salmo trutta*), Grayling (*Thymallus thymallus*), Bullhead (*Cottus gobio*).

Standing Water (Lakes and Ponds)

Standing water bodies are diverse, including large lakes to small ponds, and support a characteristic range of aquatic and wetland species. These habitats can be further divided into nutrient-poor (oligotrophic) and nutrient-rich (mesotrophic and eutrophic) pools, but for Phase I Habitat mapping all can initially be identified as 'Standing Water'.

Nutrient-poor waters are more common in RCT. These water-bodies, which are often acidic, encompass a wide range of habitat types including; small flooded mine workings, peaty upland pools, land reclamation lakes and upland reservoirs (such as Llyn Fawr, near Hirwaun and Lliest Wen in Rhondda Fach). They have low productivity meaning growth of plants and animals in them is slow.

Standing Water: What to look for

Upland waterbodies are generally of low productivity, with naturally specialised floras that can include characteristic species such as Quillwort (*Isoetes lacustris*) (restricted in Glamorgan to Llyn Fawr and Llyn Fach), Alternate Water-milfoil (*Myriophyllum alterniflorum*), Bog Pondweed (*Potamogeton polygonifolius*) and Marsh St John's-wort (*Hypericum elodes*).

Upland dragonflies and damselflies flourish in acidic pools and lakes. Black Darter (*Sympetrum danae*), Common Hawker (*Aeshna juncea*) and Keeled Skimmer (*Orthetrum coerulescens*) are characteristic upland pool species, together with upland water beetles. The Scarce Blue-tailed Damselfly (*Ischnura pumilio*) is associated with shallow, often short-lived pools on brownfield sites. Common Frog (*Rana temporaria*) is ubiquitous, and Palmate Newt (*Lissotriton helveticus*) is a common species of nutrient poor ponds and pools in RCT, while Great Crested Newt (*Triturus cristatus*) can occur in very acidic colliery spoil ponds. In more enriched waterbodies, the above can be joined by Common Toad (*Bufo bufo*) and Smooth Newt (*Lissotriton vulgaris*). Upland peat pools support Water Voles (*Arvicola amphibius*), one of the UK's most threatened mammal species.

The more nutrient enriched ponds and lakes can support denser fringes of swamp vegetation and more diverse aquatic floras. Broad-leaved Pondweed (*Potamogeton natans*) and Curled Pondweed (*Potamogeton crispus*) are important aquatic species. Diverse aquatic invertebrate communities include damsel and dragonfly communities and nesting birds such as Coot (*Fulica atra*), Moorhen (*Gallinula chloropus*) and Little Grebe (*Tachybaptus ruficollis*).

NOTE: Could be presented better as split into upland (nutrient poor), lowland (nutrient-rich) and generalist species found in both and colliery spoil. Presented as a table potentially.

Where to see different waterbodies in RCT

Become familiar with key habitats in RCT by visiting the network of 29+ sites managed for nature. These important areas are nature hotspots and connected stepping stones for the wider countryside.

For more information click on the links for each site, or see the RCT Living Landscapes website: www.rctlivinglandscape.wales

Habitat	RCT Sites	Location – What3Words
Watercourse	<u>Coed Tarren y Bwlfa</u>	<u>suitable.skid.scoping</u>
	<u>Melin yr Hom</u>	<u>cherry.final.villa</u>
	<u>Parc Coffa Ynysangharad</u> <u>War Memorial Park</u>	<u>pets.highs.landed</u>
	<u>Parc Heddwch</u>	<u>report.ballooned.unsightly</u> or <u>verve.overhaul.turkeys</u>
	<u>Ynysddu</u>	<u>monument.proposals.drips</u>
Lake	<u>Cwm Clydach</u>	<u>hotspot.crumples.pints</u> or <u>thumb.blotting.strutting</u>
	Dare Valley Country Park	<u>retraced.offhand.doted</u> or <u>storybook.ownership.dislodge</u>
	<u>Parc y Darran</u>	<u>vibrate.lunch.lock</u>
	<u>Glyncornel</u>	<u>invent.neat.pasta</u>
Pond	Parc Gwledig Barry Sidings	<u>insect.slim.deaf</u>

Useful resources

- afonyddcymru.org **Afonydd Cymru** is a charity that represents the 6 regional Welsh river trusts and champions Wales' 33 rivers, plus its lakes and smaller watercourses.
- sewrt.org.uk The **South East Wales Rivers Trust** aims to protect and improve the rivers of south east Wales.
- freshwaterhabitats.org.uk The **Freshwater Habitats Trust** is a UK charity that works to create, restore and protect freshwater habitats for wildlife.
- riverflies.org The **Riverfly Partnership** is a network of organisations working to protect the river water quality; further understanding and conservation of riverflies.
- data.jncc.gov.uk/data/b0b5e833-7300-4234-8ae5-bdbf326e854c/habitat-types-freshwater.pdf pdf of webpages published between 2012 and 2015 describing UK Terrestrial & Freshwater Habitat Types.
- nonnativespecies.org/non-native-species/id-sheets Identification sheets of non-native species by the GB Non-native species secretariat.