

Tayside Woodland Partnerships

Riparian woodlands, our rivers and the challenge of Climate Change

taysidewoodlandpartnerships.org

People's Emergency Briefing

On the climate and nature crisis

Blairgowrie and Rattray

BLAIRGOWRIE AND RATTRAY COMMUNITY COUNCIL

CLIMATECAFÉ BLAIRGOWRIE & RATTRAY

Scan to view trailer

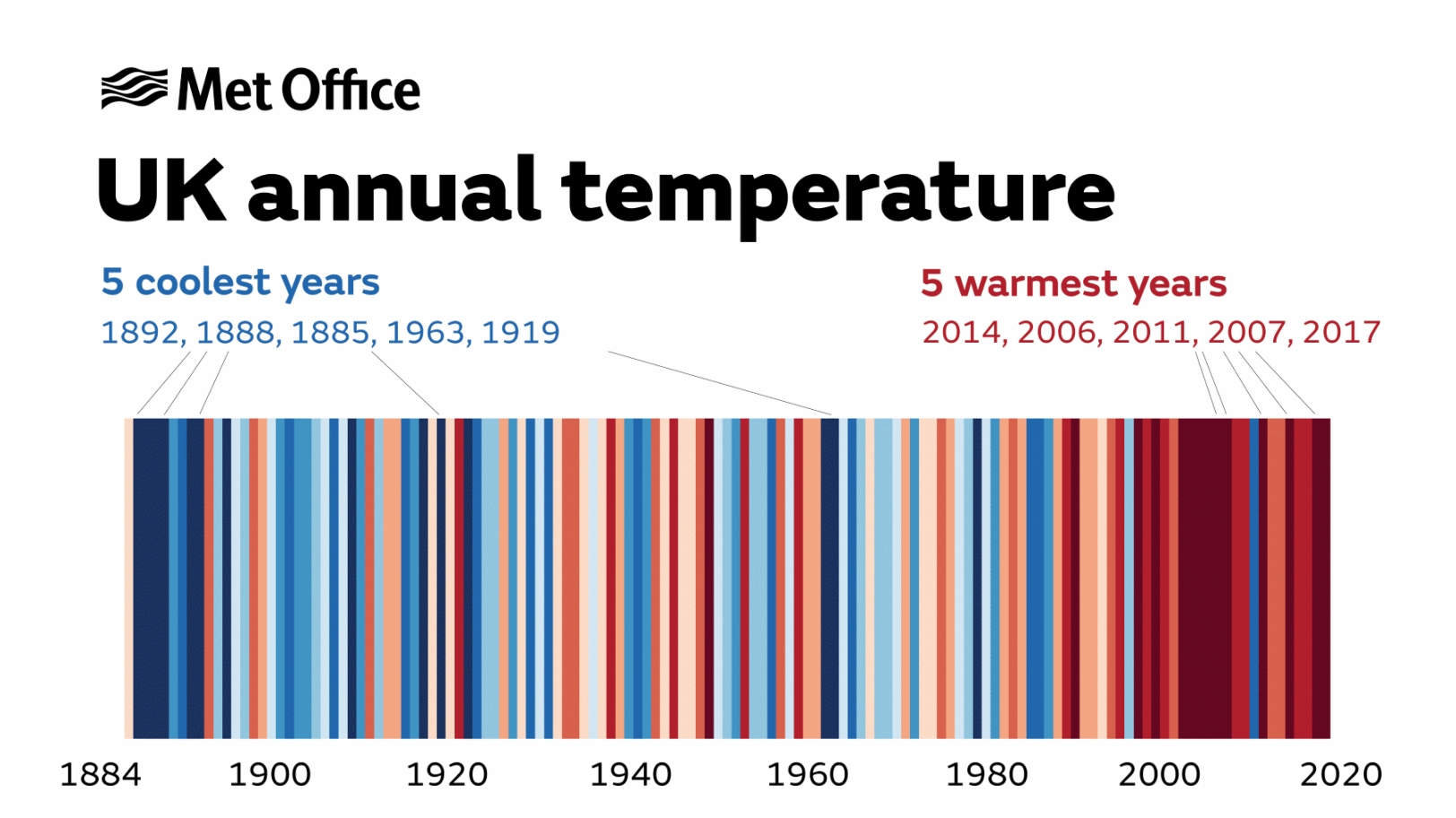
www.nebriefing.org

Free film screening and community discussion, with hot drink and biscuits

Blairgowrie High School, PH10 6PW
Monday 26th October
Doors: 6.30pm Start: 7pm

16

Climate Emergency - The Big Issue





Alastair's wood, Spittalfield 2023

Scotland’s National Tree Challenge

- Scotland: 19% woodland coverage
- EU average: 39% coverage
- Of Scotland's woodland:
  - 71% conifer, 29% broadleaf
  - Only ~8% ancient woodland (pre-1750)
- Climate emergency declared 2019
- Net Zero by 2045 (Climate Change Act 2019)
- PEB ‘emergency response" needed





What can I do?'- TWP is born.

Rise to the challenge!

- Founded October 2021
- Born from Blairgowrie Climate Café discussions
- Vision of Alastair Fraser and Len Seal
- A multi-talented diverse team of local people
- Grassroots, local, volunteer-driven
- A multi-generational, inclusive organisation.

Right: Alastair's wood, Spittalfield 2025



TWP is building strong foundations

Governance: Scottish Charitable Incorporated Organisation (SCIO 51345)

Diverse Funding Portfolio:

- **Local Authority:** Perth & Kinross Council Nature Restoration Fund (2024 & 2025)
- **Charitable Trust:** The Gannochy Trust/The Basil Death Trust/Andie Millar Trust/Lang Foundation
- **Corporate Partner:** The Enchanted Forest
- **Professional Support:** Studio East Architects
- **In-Kind Donations:** Carbon Footprints, Woodland Trust.



Scottish Riparian habitats -the river challenge

- Atlantic salmon perform best when the water temperature in in the mid-teens
- 23 degrees C salmon experience thermal stress
- 32 degrees C juvenile salmon will die in minutes

Why this matters - the economics of Salmon in our rivers

- Daily permits £30 - £500 per day
- River guide £350 - £ 495 per day
- High end beats £1000 + per day



- This adds up to over **£100m** annually to the Scottish economy



Girnock Burn below Creag Phiobaidh. Image: Nigel Corby / Girnock Burn below Creag Phiobaidh

The Girnock Burn runs through Aberdeenshire into the River Dee

- The water temperature along just over a km of it, where the banks change from open moorland to native woodland.
- In a hot, low-flow week in July 2013, ***the highest daily temperature at the wooded end was up to one degree Celsius lower than at the moorland end.***
- At the largest, the gap was two and a half degrees. On clear days the water still warmed, but more slowly than it did in open moorland.
- In spring and summer, the water in a wooded reach was typically cooler than in a nearby open reach, and it varied less from year to year.

Refs: Garner et al., 2014; Garner et al., 2015



Country diary: a midwinter walk along the South Tyne trail, Guardian, 2019

Trees Hold Riverbanks Together

- On the South Tyne, floods and the movement of the channel washed away trees that did not have young trees around them. Age diversity is important.
- On rivers that wind, less of the bank erodes where more of it has woodland.
- On rivers with coarse gravel beds, denser woody plants on the banks went with a narrower channel (less erosion).
- Roots grip the soil and hold the bank together and the mass of trees slows the flow and creates pools (this is also what Beavers do). #goodforfish

Dawson et al., 2024; Török and Parker, 2022; Van De Wiel and Darby, 2007.



Atlantic salmon. NatureScot

The importance of data

- There has been a significant long- term decline of Salmon since the mid -20th Century.
- Overall Scottish trend
- 1970 approx. 1 million returning Atlantic salmon
- Presently 400,000

The Nature Facts, NatureScot, 2026



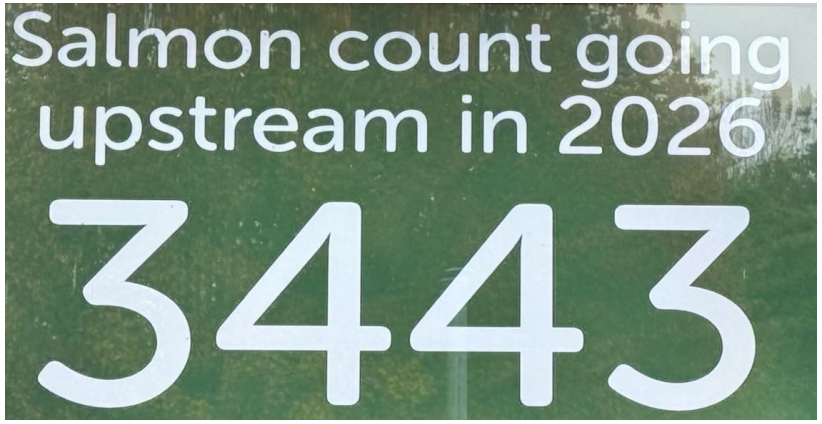
All of Scotland has water scarcity after driest period in 60 years. BBC, 2025.

Global warming is changing our environment

- During the summer of 2018, it is estimated that around 70% of Scotland's rivers experienced temperatures that exceeded this threshold for thermal stress.
- UK climate change projections provided by the MET Office (UKCP18) indicate that summers like 2018 could occur every other year by 2050, with increasingly high air temperatures and low summer flows.

Scotland River Temperature Monitoring Network (SRTMN) - gov.scot





The Salmon count on the Dam at Pitlochry October 2026

What does salmon numbers tell us about the health of our ecosystems?

- ‘’ Wild Atlantic Salmon are sensitive to change, acting as an early warning system for problems in the wider ecosystem.’’
- ‘’Wild Atlantic Salmon migration, spawning abundance and distribution is being impacted by Climate Change.’’

The Nature Facts, NatureScot, 2026



Rivers need trees more than ever!

e.g. The River Isla, Perthshire

The River Isla is a tributary of the River Tay. It rises in the Grampians before flowing down through Glen Isla.

Salmon increasingly need shaded rivers.

What do you think is missing? Discuss.



- Clunie Water in the Cairngorms.
- Scotland is renowned for its rivers and lochs. Freshwaters provide a home to iconic species such as Atlantic Salmon and Freshwater Pearl Mussels.



Scottish Rivers Fund Restoring Scotland's rivers for nature and people. River Gairn Scotlandbigpicture.com 2026

The TWP Riparian Vision

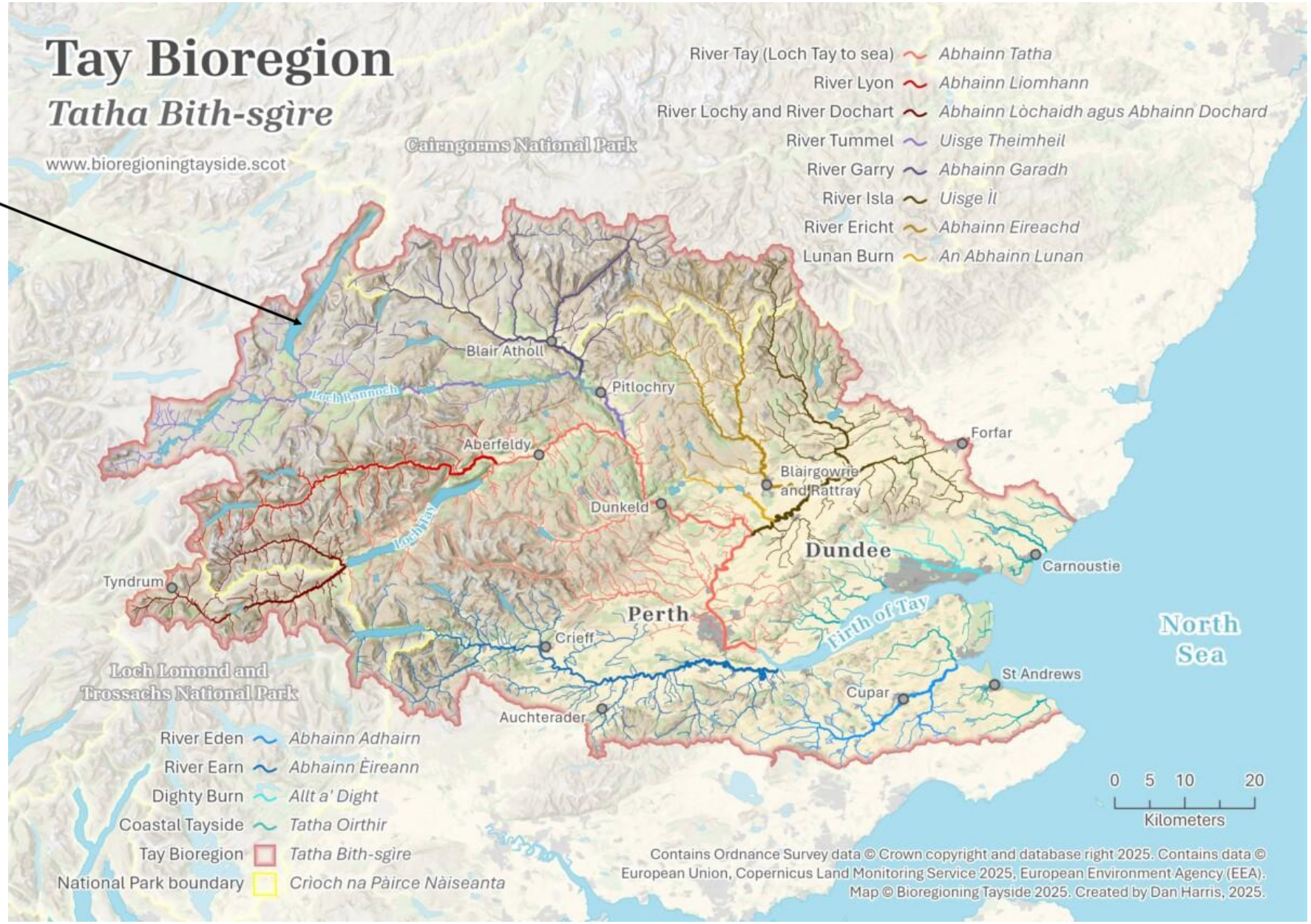
- Tayside region: 7,528 km^2
- There are ten major rivers listed in Tayside
- These include the Tay, Tummel, Lyon, Isla, Almond, Earn & Braan, Ericht, Esk (N&S) and Dighty Water

To tube or not to tube, that is the question. Discuss.

Tayside Catchment example

Loch Ericht flows into the River Ericht which flows into Loch Rannoch

Loch Rannoch flows into the River Tummel → River Tay → North Sea



TWP is open to develop working partnerships throughout the Tayside Catchment.



Community engagement

- Volunteers make it happen!
- Planting and maintenance days
- All ages and abilities welcome, though some sites have difficult terrain
- Building skills and connection to place
- Engaging young people
- Creating lasting community legacy





Track Record: Delivery Since 2021

- Trees planted across 4 sites
- Phase 1 Nursery Infrastructure Complete
- Regular volunteer engagement
- Partnership with Royal Botanic Garden Edinburgh, 2023, to create a Botanical Safe Site for Ex-Situ Conservation.
- Multiple funding rounds secured

ROYAL
BOTANIC
GARDEN
EDINBURGH



Ask not what TWP can do for you...

- **Land owners/farmers** - we are always looking for long term partners to plant more trees, develop habitats and increase biodiversity, ie landowners, managers, farmers.

- **Volunteers** - we need people to help us develop our nursery at Tradecoaters, Pitlochry, on a regular weekly basis and groups to help out on an occasional basis. In return we will develop interests and skills in all our volunteers.

- **Money** - we need funds to grow more trees and to develop our operation, advertise our vison and grow our team.

Woodland and Riparian.

We are committed to improving both.



Why support us?

✓ Proven delivery since 2021

✓ Diverse funding base established

✓ Local impact - trees stay in region

✓ Scalable model for decades to come

✓ Tangible, measurable outcomes

✓ Professional expertise meets grassroots action.

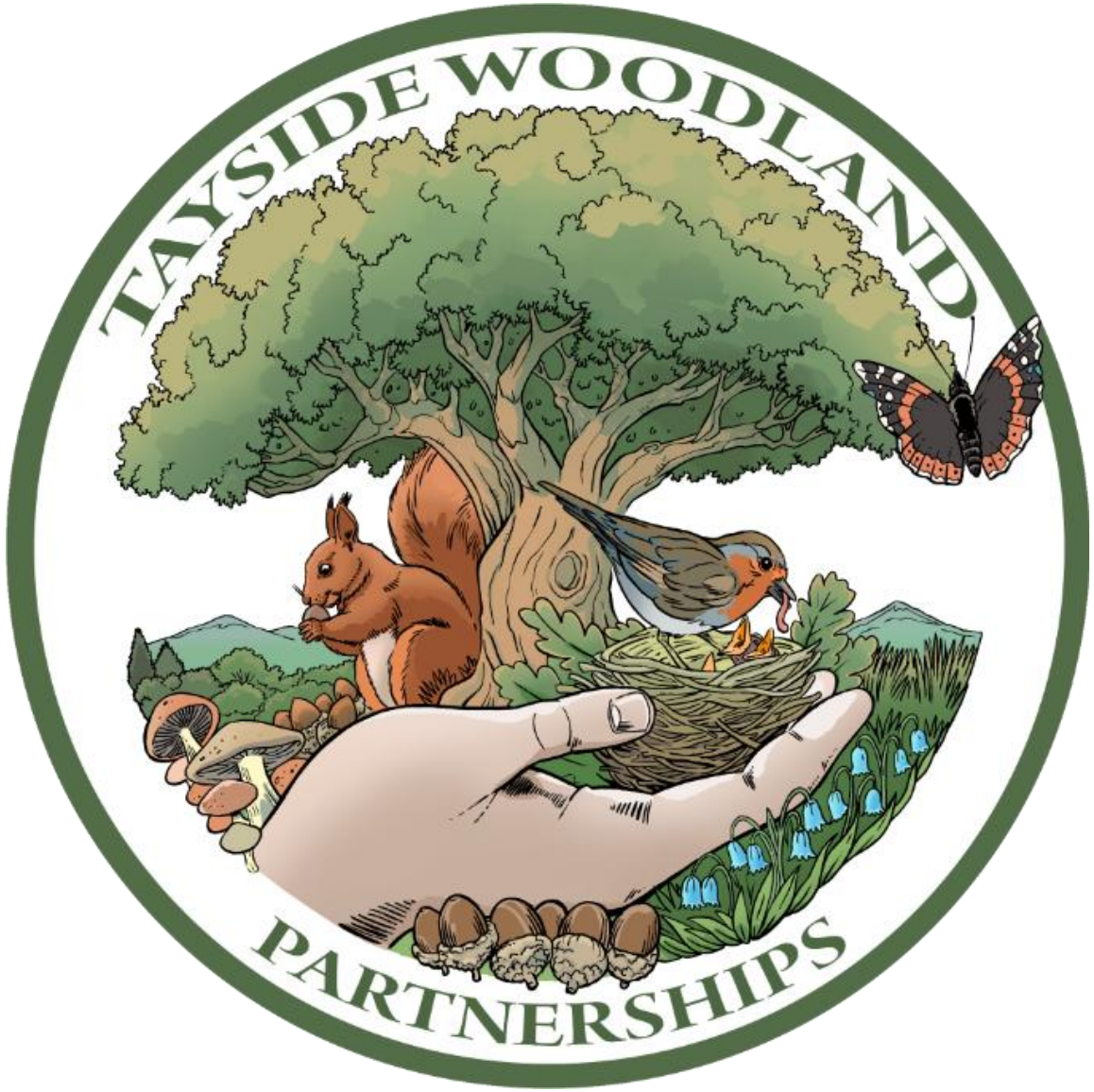
TWP is part of the future economy and it's time for Action!



Site maintenance. Alastair's wood, Spittalfield 2025

So you want to get involved?

- taysidewp@gmail.com
- Take our newsletter
- Take our card
- Become a member.





References / Bibliography

Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, asp 15. Available at: https://www.legislation.gov.uk/asp/2019/15 (Accessed: 13 January 2026).

BBC News (2025) ‘All of Scotland has water scarcity after driest period in 60 years’. Available at: https://www.bbc.co.uk/news/articles/c0r1nk8g8l8o (Accessed: 5 November 2026).

Dawson, M., Gurnell, A., Lewin, J. and Macklin, M.G. (2024) ‘Recent changes in riparian and floodplain vegetation in England and Wales and its geomorphic implications’, River Research and Applications, 40(6), pp. 1031–1048. Available at: https://doi.org/10.1002/rra.4243

Eurostat (2024) Forests, forestry and logging. Luxembourg: Publications Office of the European Union. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Forests,_forestry_and_logging (Accessed: 13 January 2026).

Forestry Commission (2024) The benefits of woodland creation: Woods and Carbon. GOV.UK. Available at: https://www.gov.uk/government/publications/the-benefits-of-woodland-creation-woods-and-carbon (Accessed: 13 January 2026).

Forest Research (2025) Forestry Statistics 2025: Chapter 1 - Woodland Area & Planting. Roslin: Forest Research. Available at: https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics-2025/ (Accessed: 13 January 2026).

Garner, G., Malcolm, I.A., Sadler, J.P. and Hannah, D.M. (2014) ‘What causes cooling water temperature gradients in a forested stream reach?’, Hydrology and Earth System Sciences, 18(12), pp. 5361–5376. Available at: https://doi.org/10.5194/hess-18-5361-2014

Garner, G., Malcolm, I.A., Sadler, J.P., Millar, C.P. and Hannah, D.M. (2015) ‘Inter-annual variability in the effects of riparian woodland on micro-climate, energy exchanges and water temperature of an upland Scottish stream’, Hydrological Processes, 29(6), pp. 1080–1095. Available at: https://doi.org/10.1002/hyp.10223

Perth and Kinross Council (2019) Perth & Kinross by Numbers: Key Statistics 2019. Available at: https://www.pkc.gov.uk/media/44938/Perth-and-Kinross-by-Numbers-Factsheet-2019/pdf/Perth__Kinross_By_Numbers_Factsheet.pdf (Accessed: 13 January 2026).

NatureScot (2025) Scotland’s Changing Nature – Atlantic Salmon. Available at: https://www.nature.scot/doc/scotlands-changing-nature-atlantic-salmon (Accessed: 10 November 2026).

Scottish Government (2024) Scottish Biodiversity Strategy to 2045. Edinburgh: Scottish Government. Available at: https://www.gov.scot/publications/scottish-biodiversity-strategy-2045/ (Accessed: 13 January 2026).

Scottish Government (2025) Scottish Greenhouse Gas Statistics 2023. Edinburgh: Scottish Government. Available at: https://www.gov.scot/publications/scottish-greenhouse-gas-statistics-2023/ (Accessed: 13 January 2026).

Scottish Forestry (2014) Scotland's Native Woodlands: Results from the Native Woodland Survey of Scotland. FCMS126. Edinburgh: Forestry Commission Scotland. Available at: https://www.forestresearch.gov.uk/publications/scotlands-native-woodlands-results-from-the-native-woodland-survey-of-scotland/ (Accessed: 13 January 2026).

Török, G.T. and Parker, G. (2022) ‘The influence of riparian woody vegetation on bankfull alluvial river morphodynamics’, Scientific Reports, 12, article 18141. Available at: https://doi.org/10.1038/s41598-022-22846-1

Woodland Carbon Code (2025) 3. Carbon sequestration, Version 3.0. Edinburgh: Scottish Forestry. Available at: https://www.woodlandcarboncode.org.uk/3-carbon-sequestration (Accessed: 13 January 2026).

Van De Wiel, M.J. and Darby, S.E. (2007) ‘A new model to analyse the impact of woody riparian vegetation on the geotechnical stability of riverbanks’, Earth Surface Processes and Landforms, 32(14), pp. 2185–2198. Available at: https://doi.org/10.1002/esp.1522

Scottish Forestry (2014) Scotland's Native Woodlands: Results from the Native Woodland Survey of Scotland. FCMS126. Edinburgh: Forestry Commission Scotland. Available at: https://www.forestresearch.gov.uk/publications/scotlands-native-woodlands-results-from-the-native-woodland-survey-of-scotland/ (Accessed: 13 January 2026).

Woodland Carbon Code (2025) 3. Carbon sequestration, Version 3.0. Edinburgh: Scottish Forestry. Available at: https://www.woodlandcarboncode.org.uk/3-carbon-sequestration (Accessed: 13 January 2026).