LOCH LOMOND FISHERIES TRUST

Annual Report 2025

Chairpersons Address

It gives me great pleasure to introduce the 2025 annual report of the Loch Lomond Fisheries Trust.

It has been another productive and encouraging year for Loch Lomond Fisheries Trust, as we continue our work to protect and enhance the aquatic and riparian habitats in our catchment. At a time when our freshwater ecosystems face increasing pressures, the importance of this work has never been clearer. As you read through this report, I hope you are as impressed as I am with the work that the team has achieved over the past year or so. I am particularly pleased to see the Glen Fruin Habitat Improvement Project nearing completion.

I am delighted to welcome Dr. Joanna Girvan to the team as our new Senior Biologist/Trust Manager. Jo brings years of experience and knowledge from the fisheries sector, and her appointment strengthens our scientific capacity as we continue to take a robust, evidence-led approach to fisheries management and conservation.

After much consideration, I have decided that this is the right time for me to step down from my role as Chair. It has been a privilege to serve the Trust in this capacity, and while I will be stepping down as Chair, I will continue supporting the Trust as a member of the Board. I warmly welcome Prof. Colin Adams, who has joined the Trust and will take over the role. Colin's appointment also marks a welcome return, as he previously served as the Trust's first Chairperson and was instrumental in setting up the Trust.

I would like to end by giving a heartfelt thank you to everyone who has contributed to the Trust's work over the past year!

Hannele Honkanen

Chairperson

About the Loch Lomond Fisheries Trust

Vision

The Loch Lomond Fisheries Trust (LLFT) is an environmental charity formed in 2001 to champion the conservation and restoration of Loch Lomond's native fish and the freshwater environment. The trust works on various community engagement and practical conservation projects to achieve our objectives. Our aim is to maintain and restore biodiversity with a practical, responsible, and sustainable approach.

Having a catchment area that spans from the River Falloch to the mouth of the Leven provides a rich and varied ecosystem to protect. The presence of diverse habitats supports a wide range of wildlife, including various species of birds, fish, mammals, and even reptiles. This highlights the importance of holistic conservation efforts that consider the interconnectedness of different species and habitats within the ecosystem.

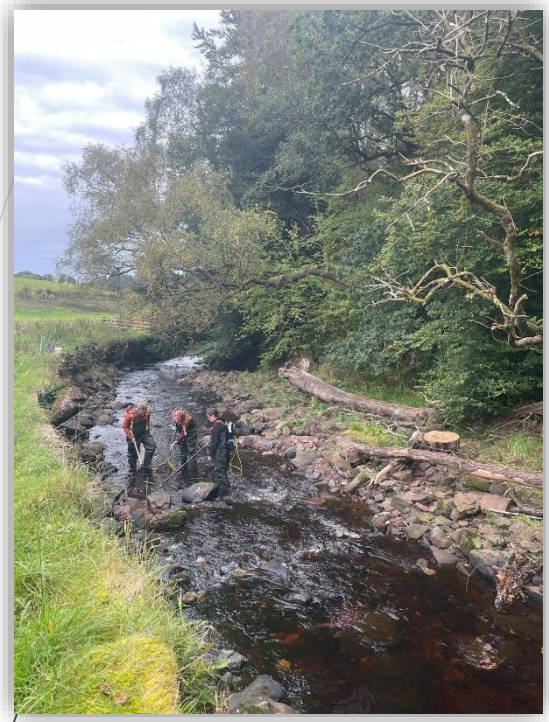
By maintaining and restoring biodiversity in Loch Lomond and its surrounding areas, the Loch Lomond Fisheries Trust is not only preserving the natural beauty of the region but also ensuring the long-term sustainability of its ecological systems. This benefits both the environment and the communities that depend on it for their livelihoods and recreation.

Mission

Our primary mission at LLFT is to restore and maintain the natural processes of the rivers running in and out of Loch Lomond.

A year in pictures at LLFT

Trout seine netting to monitor fish health, like sea lice loading, in Dumbarton



Electrofishing for juvenile salmon and trout monitoring

Riverfly surveys with volunteers

Fish passage installation on a bridge culvert in the Glen Fruin

The Loch Lomond Catchment in 2025

Why this catchment is nationally important

The Loch Lomond catchment is one of Scotland's most ecologically significant freshwater systems, linking upland headwaters to the tidal reaches of the River Leven and ultimately the Firth of Clyde. Its network of rivers, burns, lochs and wetlands supports a remarkable diversity of habitats and species, from migratory salmonids and lamprey to otters, birds, and a wide range of aquatic invertebrates. As one of the largest freshwater catchments in central Scotland, it provides critical ecosystem services including water supply, flood regulation, biodiversity support, and recreation for surrounding communities. The health of these rivers is therefore not only important for wildlife, but also for the cultural, economic, and environmental wellbeing of the region and the nation.

Pressures facing the catchment in 2025

In 2025, the Loch Lomond catchment faces a combination of historic and emerging pressures that threaten the resilience of its freshwater ecosystems. Prolonged periods of low rainfall and rising summer temperatures are increasing the frequency and severity of drought conditions, particularly in vulnerable tributaries such as the Glen Fruin. Physical barriers to migration, including culverts, bridge aprons, and degraded gabion structures, continue to fragment access to critical spawning and refuge habitats. Diffuse pollution from land use, invasive non-native plant species, and the legacy of environmental incidents such as the Fruin oil spill add further stress to already declining salmonid populations. Together, these pressures highlight the urgent need for coordinated, catchment-scale action.

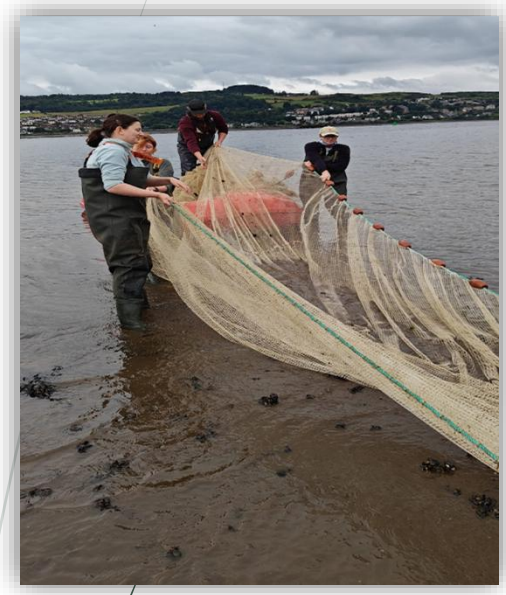
The Endrick Special Area of Conservation (SAC) and its qualifying species

At the heart of the catchment lies the River Endrick, designated as a Special Area of Conservation (SAC) under the Habitats Regulations for its internationally important populations of river lamprey (*Lampetra fluviatilis*) and brook lamprey (*Lampetra planeri*). The Endrick also supports significant populations of Atlantic salmon (*Salmo salar*), which depend on clean gravels, cool water, and unimpeded migration routes to complete their life cycle. This designation places a legal and ecological responsibility on all stakeholders within the catchment to maintain and improve habitat quality, connectivity, and water conditions. The Endrick SAC is therefore not only a protected river, but a benchmark against which the ecological health of the wider Loch Lomond system can be judged.

Evidence-led fisheries management

The work of the Loch Lomond Fisheries Trust is grounded in long-term scientific monitoring and data collection across the catchment. Through annual juvenile fish surveys following National Electrofishing Programme for Scotland (NEPS) protocols, fish health monitoring, beaver habitat surveys, and citizen science initiatives such as the Riverfly Monitoring Initiative, LLFT builds a detailed picture of how rivers are functioning and how fish populations are responding to environmental change. This evidence allows the Trust to move beyond reactive conservation and towards targeted, evidence-led management — identifying where habitats are failing, where interventions will be most effective, and how restoration efforts can be designed to deliver lasting ecological benefit.

What Our Monitoring Is Telling Us



Juvenile salmonid surveys – Endrick and Blane

Long-term electrofishing surveys across the Endrick and Blane continue to show a worrying decline in juvenile salmonid populations. In 2025, many monitoring sites recorded very low or zero observations of salmon fry and parr, with numerous sites failing to meet established benchmark densities for at least one life stage. Across the 41 sites surveyed, salmon, trout, or both species fell below the 25% benchmark density, highlighting that these rivers are currently operating far below their natural carrying capacity.

This is particularly concerning given that the River Endrick is designated as a Special Area of Conservation (SAC), with Atlantic salmon listed as a qualifying species. Analysis of LLFT-contributed National Electrofishing Programme for Scotland (NEPS) data by the Marine Directorate has already classified the Endrick SAC as being in an unfavourable (declining) condition for Atlantic salmon. The continued failure to meet benchmark densities in 2025 reinforces this assessment and demonstrates that the decline is persistent rather than episodic. Trout populations are also showing similar downward trends, suggesting broader habitat or environmental pressures affecting both species.

Juvenile salmonid surveys – Glen Fruin

In contrast to the Endrick and Blane, monitoring results from the Glen Fruin continue to show that this river system is functioning as a critical refuge for salmonids within the Loch Lomond catchment. The majority of monitoring sites in the Fruin met or exceeded predicted benchmark densities for both salmon and trout. Atlantic salmon accounted for approximately 60% of total catches, with trout making up the remaining 40%.

High numbers of fry were again recorded in 2025, consistent with previous years, indicating that spawning success in the Fruin remains strong. However, the relatively low numbers of older juvenile life stages suggest that over-winter survival may be limiting recruitment. This pattern indicates that while the Fruin continues to produce juvenile fish successfully, environmental pressures such as drought, habitat fragmentation, and temperature stress may be preventing these fish from surviving into later life stages. These findings reinforce the importance of the ongoing habitat restoration and barrier removal work currently underway in the Fruin catchment.

Seine netting at the River Leven mouth – fish health and sea lice monitoring

Fish health monitoring in the Leven Estuary continued in 2025, building on preliminary seine netting surveys undertaken in 2024. Seine netting allows LLFT to assess sea lice burdens on migrating sea trout and salmon as they enter or leave the freshwater system. With support from the Argyll Fisheries Trust, four sampling events were completed this year, resulting in 35 sea trout being examined.

Of these fish, 51.4% were found to carry sea lice. Infestation rates varied with fish size, with 31.8% prevalence in fish under 150 g and 84.6% in larger fish. Although higher infestation rates were recorded in larger individuals, the overall lice burdens remained low and are unlikely to have caused significant harm to the fish sampled. No Atlantic salmon were captured during these surveys, and this contrasts with 2024 when no lice were recorded on any sampled fish. As this is only the second year of monitoring in the Leven Estuary, continued annual surveys are essential to establish long-term trends and better understand sea lice prevalence on migratory salmonids within the Loch Lomond system.

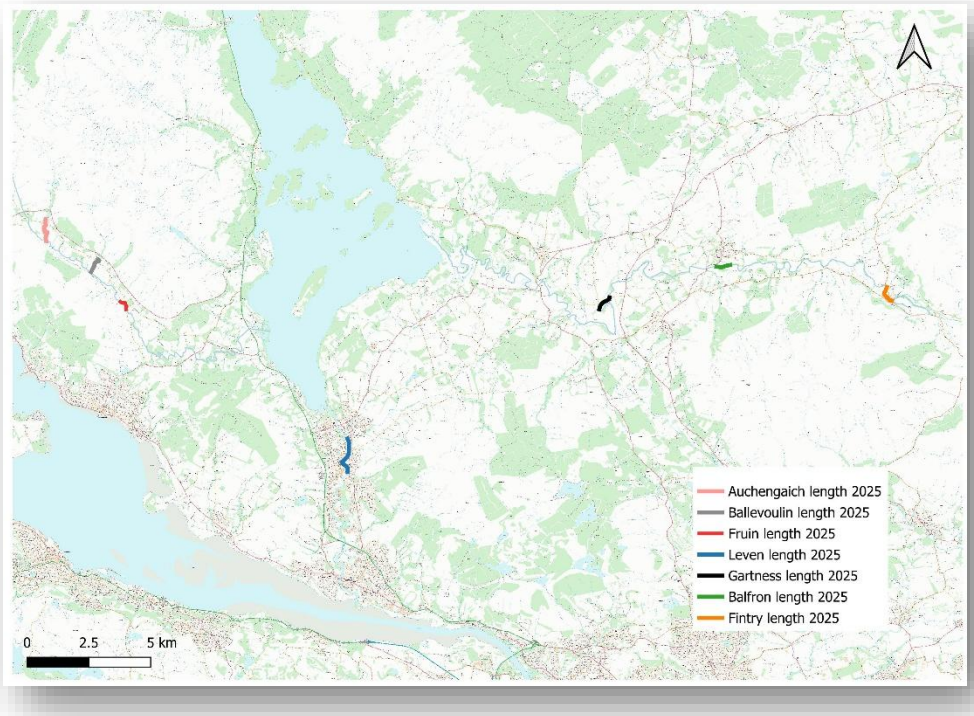
Redd surveys

A total of 6.2km of river was surveyed for redds over 4 days during December 2025 and January 2026. Five rivers were included (see the Map below). This season, the weather and flow conditions were not often advantageous for surveying due to frequent downpours and elevated flow levels, and so it was not possible to carry out quantitative surveys. Flood flows tend to erase the surface characteristics of the redds making them more difficult to define and quantify. However, at each of the seven sites, evidence of spawning was observed. In the Auchengaich, Ballevoulin and Leven, hen fish were observed sitting on redds, and in the Fruin and Endrick, large areas of recently disturbed substrate were evident.

Next season, it is proposed a combination of drone and bank surveys will be undertaken to standardize the methodology and increase the comparability of the data generated. Site selection will benefit from the qualitative information derived this year. Thanks to the Loch Lomond Angling Improvement Association for advice on where to focus the search for spawning evidence.

Salmon on a redd in the Leven (LLAIA)

A redd in the Endrick at Fintry



Map of redd survey areas

From Evidence to Action — Habitat Restoration in 2025

Glen Fruin Habitat Improvement Project

Monitoring results from recent years have shown that the Glen Fruin functions as one of the last strongholds for successful salmon spawning within the Loch Lomond catchment. However, surveys also identified that access to significant upstream habitat was being restricted by artificial bridge aprons at the Auchengaigh and Ballyvoulin Burns. In response to this evidence, LLFT worked with the Ayrshire Fisheries Trust and secured funding through Salmon Scotland's Wild Fisheries Fund to install fish passes at both locations during the summer of 2025.

These fish passes consist of strategically placed timber baffles designed to operate across a wide range of flow conditions. By slowing and deepening water over the bridge aprons, they enable migrating salmonids to ascend previously impassable barriers while providing resting points during migration. This work restores connectivity to additional spawning and refuge habitats upstream and represents a key step in reversing habitat fragmentation within the Fruin system.

Beyond improving migration for salmon and sea trout, the restored connectivity also benefits resident fish species by allowing access to areas that offer thermal refuge during heat events, protection during drought and floods, and reduced exposure to predation. Over the coming years, it is hoped that salmon will begin to recolonise these upstream reaches, contributing to the long-term recovery of salmonid populations across the catchment.

Tree planting for temperature and drought resilience

Alongside improving connectivity, habitat restoration in the Fruin has focused on increasing the river's resilience to rising temperatures and prolonged periods of low flow. Riparian tree planting works remain on schedule, with the first phase due for completion by the end of March. This phase involves the planting of 1,500 native trees across three burns within the Glen Fruin catchment.

Riparian planting provides multiple long-term benefits to the freshwater environment. Tree root systems help stabilise riverbanks and reduce erosion, while increased canopy cover shades the river, regulating water temperature and improving overall water quality. As climate change drives warmer summers and more frequent drought conditions, this shading effect becomes increasingly important for the survival of juvenile salmonids.

The developing riparian corridor will also create improved refuge and feeding areas for fish, while supporting ground-nesting birds and increasing biodiversity across the wider landscape. This work represents a practical, nature-based response to the environmental pressures identified through LLFT's monitoring and demonstrates how evidence gathered in the field is directly informing targeted restoration action.

Beaver Monitoring in the Endrick SAC

Beavers were once widespread throughout the UK but were hunted to extinction approximately 400 years ago for their fur, meat, and castoreum.

Reintroduction efforts began in the UK in 2008, with populations gradually increasing. In 2019, beavers were granted legal protection as a native species.

Recognised as ecosystem engineers, beavers play a vital role in habitat enhancement by slowing water flows, creating wetlands, and increasing biodiversity across catchments, as is seen throughout their range in Europe and North America.

Further information on Scotland's beaver reintroduction programme is available here, on the NatureScot website.

Why LLFT monitors beavers?

The Loch Lomond Fisheries Trust monitors beaver activity as part of its responsibility to understand how ecological change influences river processes and fish habitat within the catchment. Beavers have been present in Loch Lomond since 2019, with a further translocation of nine individuals in 2023. As a legally protected native species and recognised ecosystem engineers, beavers are capable of significantly altering river morphology, water flow, and habitat structure.

Within a catchment that includes the River Endrick Special Area of Conservation (SAC), designated for its lamprey populations and supporting important Atlantic salmon habitat, understanding how beaver activity interacts with these sensitive species is essential. Monitoring allows LLFT to observe how beaver-created wetlands, dams, and flow alterations influence sediment movement, water retention, and fish passage, ensuring that habitat changes remain compatible with the conservation objectives of the SAC.

Beaver impacts on lamprey and salmon habitat

Beaver activity has the potential to create both opportunities and challenges for fish species within the Endrick SAC. The slowing of water and creation of wetland habitats can improve conditions for invertebrates, increase habitat diversity, and enhance refuge areas for juvenile fish during drought and high flow events. However, dam structures may also influence fish passage and alter the clean gravel habitats required by lamprey and salmon for spawning.

For this reason, ongoing monitoring is critical. By observing how beaver modifications affect sediment deposition, water depth, and connectivity, LLFT can assess whether interventions or management actions are required to maintain suitable habitat for the SAC's qualifying species. This work ensures that the ecological benefits of beaver presence are balanced with the protection of sensitive migratory fish populations and the long-term health of the river system.

2024–2025 survey findings

Biannual transect surveys have continued across nine tributaries within 3.5 km of the original release site on the Aber Burn. Survey results from 2024 and 2025 show a noticeable increase in beaver activity, particularly along the main stem of the Endrick Water. Evidence of dam building, tree felling, bank modification, and wetland creation has become more widespread compared to previous years.

This expansion reflects the continued establishment of the beaver population within the catchment and highlights the dynamic nature of river systems where beavers are present. Camera traps, field signs, and repeat surveys allow LLFT to track how quickly beaver activity is spreading and how river channels are responding to these changes through increased water retention and habitat complexity.

Monitoring river health in the community

Riverfly Monitoring Initiative

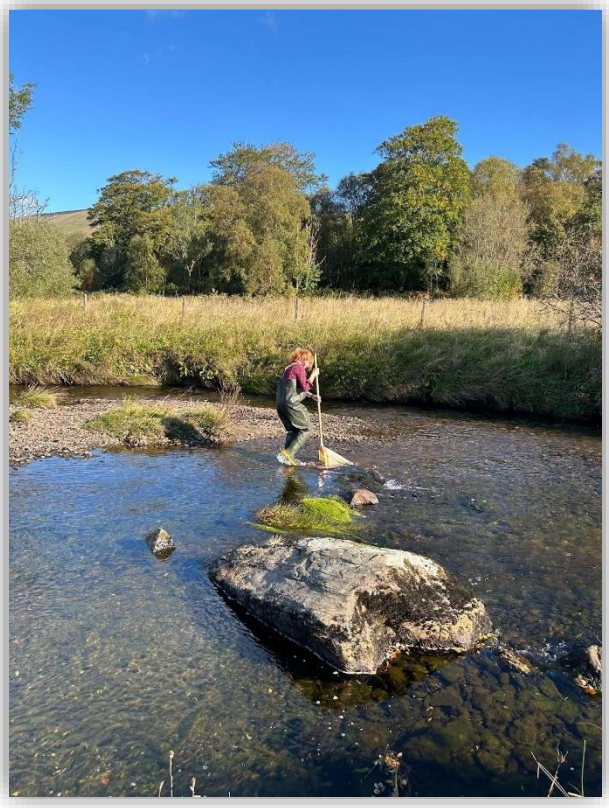
The Loch Lomond Fisheries Trust contributes to the Riverfly Monitoring Initiative (RMI), a nationwide citizen science programme that uses aquatic invertebrates as indicators of river health. Invertebrate communities respond quickly to changes in water quality, making them a highly effective early-warning system for pollution and environmental stress.

Monthly surveys are carried out on the Mill Burn in Renton and the Fruin Water using the standard kick-sampling technique, followed by a timed stone search. Samples are collected, sorted, and analysed to identify eight key indicator groups. Any decline below established "trigger levels" signals a potential issue with water quality and prompts further investigation. Through this consistent monitoring, LLFT is building a clearer picture of how local rivers are functioning throughout the year.

Volunteers and Citizen Science

Volunteers are central to the success of the Riverfly programme. With training and equipment provided by the Trust, participants learn how to carry out sampling, identify invertebrates, and interpret results. No prior experience is required, making this an accessible and rewarding way for local people to become directly involved in safeguarding their rivers.

This collaboration between scientists and volunteers strengthens the Trust's monitoring capacity while fostering a deeper community understanding of freshwater ecology. By empowering local people to contribute to data collection, LLFT is helping to create a network of informed river stewards across the catchment.



Public opinion survey

Alongside scientific monitoring, LLFT recognises the value of understanding how the public experiences and values the Loch Lomond waterways. The Public Opinion Survey invites residents, river users, and visitors to share their perspectives on the health, challenges, and importance of the catchment.

Summary of responses for 2025

A total of **115 responses** were received for the 2025 Public Opinion Survey, providing a valuable insight into how people use and perceive the rivers and lochs within the Loch Lomond catchment.

Demographic profile

The largest group of respondents were aged **55–64 (28.7%)**,
followed by **65+ (21.7%)**
and **45–54 (19.1%)**.

The **18–24 age group remains under-represented at 3.5%.**

There continues to be a gender imbalance in responses, with **70.4% male** and **26.1% female** respondents, closely mirroring last year's pattern.

The majority of respondents identified as **residents (59)**, followed by **tourists/visitors (42)**, giving a useful mix of local and visiting perspectives.

What matters most to people

Biodiversity, water quality, and overall river health continue to be the characteristics most valued by participants, consistent with 2024 findings.

Other themes include:
•Rubbish and littering (especially boat waste)
•Poor water quality
•Invasive non-native species
•Erosion and flooding
•Perceived lack of support for anglers
•Concern about fish stocks and habitat damage

Satisfaction with the state of the rivers

Public opinion shows a cautious but notable pattern:
•36.5% satisfied
•34.8% neutral
•26.1% dissatisfied or very dissatisfied
While dissatisfaction remains significant, this is slightly more balanced than in 2024 and shows that people recognise both the value of the rivers and the pressures they face.
As last year, residents were more likely to express dissatisfaction than visitors, suggesting that those who see the rivers regularly are more aware of ongoing issues.

Invasive Non-Native Species Control

Endrick, Blane and Fruin progress

Giant hogweed and Japanese knotweed were treated on the Blane and Endrick Waters in 2025, all the way down from Blanefield to Drymen Bridge. Most of these sites are reducing, with very few new sites and only one or two sites at similar densities as previous years. The INNS management was carried out by Endrick Environmental Ltd in 2025, funded by the LLTNP and administered by LLFT. American skunk cabbage was also treated at Balloch Castle Country Park.

Phase 2 of a Himalayan balsam rust project has been started, funded by the LLTNP. One year of inoculations was carried out in 2021, but no follow up was carried out due to lack of funding. It is possible that with further inoculations, and a greater breadth of ecological sites, we may have more success and the possibility of rolling the rust out more widely.

Why INNS control is essential for SAC rivers

Invasive non-native plant species pose a significant threat to the ecological integrity of Special Areas of Conservation (SAC) rivers such as the Endrick. Species like Japanese Knotweed, Giant Hogweed, Himalayan Balsam, and American Skunk Cabbage outcompete native riparian vegetation, reducing biodiversity and destabilising riverbanks. This loss of native plant cover increases erosion and sediment input into the river, which can smother the clean gravels required by salmon and lamprey for spawning. In SAC rivers where habitat quality is legally protected for sensitive species, unchecked spread of INNS can undermine conservation objectives by degrading water quality, altering light and temperature conditions, and disrupting the natural processes that maintain healthy freshwater ecosystems. Effective, ongoing INNS control is therefore not simply cosmetic management, but a fundamental part of protecting the ecological function of these protected rivers.

Biosecurity risks on Loch Lomond

Loch Lomond's popularity for recreation, boating, angling, and tourism brings an increased risk of introducing and spreading invasive species between water bodies. Equipment such as boats, paddleboards, fishing gear, and footwear can inadvertently transport plant fragments, seeds, and aquatic organisms from one location to another. Once established, invasive species are extremely difficult and costly to remove. Promoting strong biosecurity practices — such as the "Check, Clean, Dry" approach — is essential to prevent new introductions and limit the spread of existing species throughout the catchment. Raising awareness among loch users and encouraging responsible behaviour is a key preventative measure in safeguarding the freshwater habitats of Loch Lomond and its tributaries for the future.

Working with Partners

- NatureScot and the Endrick SAC
- MOWI, Bakkafrost, Adler and Allan
- Loch Lomond and the Trossachs National Park and the Nature Restoration Fund
- Salmon Scotland and the Wild Fisheries Fund
- Landowners and volunteers
- Loch Lomond Angling Improvement Association
- West Dunbartonshire Council

New partners for 2026

- Nature Friendly Farming Network
- Forth Climate Forest
- Balloch Castle Country Park

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Priorities for 2026

Continued salmonid monitoring plan

Long-term juvenile salmonid monitoring will remain central to LLFT's work in 2026. Continued electrofishing surveys across the Endrick, Blane, Fruin and their tributaries will allow the Trust to track changes in recruitment, identify emerging pressures, and measure the effectiveness of ongoing habitat restoration work. Expanding the spatial coverage of monitoring sites will improve understanding of where salmonid populations are failing to thrive and where refuge areas remain. This evidence-led approach ensures that management actions are targeted where they are most needed.

Barrier removal programme

Improving connectivity across the catchment is a growing priority for LLFT. Following the installation of fish passes in the Glen Fruin in 2025, attention will turn to identifying and addressing further artificial barriers to migration throughout the catchment. Culverts, bridge aprons, and legacy structures continue to restrict access to valuable spawning and refuge habitats. A structured programme of assessment, prioritisation, and remediation will help restore natural river continuity for salmon, trout, and lamprey.

Water quality monitoring

Building on Riverfly surveys and public interest in water testing, LLFT aims to introduce a broader water quality monitoring programme across the Fruin, Endrick and Blane systems. By training volunteers to collect regular data on water clarity, temperature, and key chemical indicators, the Trust will gain a clearer picture of how water conditions vary throughout the year and across different tributaries. This information will help identify pollution sources, diffuse runoff issues, and areas where habitat quality may be limiting fish populations.

Completion of Fruin Restoration works

The Glen Fruin Habitat Improvement Project will continue into 2026 with the completion of riparian planting, bank stabilisation, and monitoring of fish movement upstream of the newly installed fish passes. Observing how salmon and trout respond to improved connectivity and habitat conditions will be a key focus. The Fruin represents one of the most important remaining strongholds for salmon production in the catchment, and ensuring the success of this restoration work remains a priority. Drought resilience will also be addressed in an upper tributary.

Catchment-wide habitat resilience

Across the catchment, LLFT will continue to promote habitat resilience in response to rising temperatures, increased drought frequency, and ongoing environmental pressures. This includes riparian tree planting, INNS control, green engineering approaches to bank restoration, and careful monitoring of beaver activity within the Endrick SAC. By working to improve shading, bank stability, water retention, and habitat diversity, the Trust aims to strengthen the ability of rivers to support healthy fish populations under changing environmental conditions.

Acknowledgments and Thanks

The work of the Loch Lomond Fisheries Trust is only possible through the dedication, support, and shared commitment of many individuals and organisations. We are deeply grateful to our staff, volunteers, landowners, partners, and funders who continue to give their time, expertise, and enthusiasm to protecting the rivers and lochs of this remarkable catchment.

Whether assisting with surveys, supporting habitat restoration, granting access to land, contributing specialist knowledge, or helping behind the scenes, every contribution plays an important role in safeguarding these freshwater environments. The progress made in 2025 reflects a truly collaborative effort, and we extend our sincere thanks to everyone who has worked alongside us throughout the year.

How to get involved

If anything in this report has inspired you, we would love to hear from you. There are many ways to get involved with the Loch Lomond Fisheries Trust, from volunteering in monitoring programmes and habitat work to supporting citizen science initiatives and community events.
To find out more about current projects, volunteer opportunities, and upcoming activities, please visit our website below.

Contact Details

For general enquiries, volunteering opportunities, or to learn more about our work, please get in touch:

Email: info@llft.org.uk
Website: www.llft.org.uk

The LLFT is an environmental charity to champion the conservation and restoration of Loch Lomond's native fish populations, their habitats and the freshwater environment.

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