DARENT VALLEY TROUT FISHERS

Flyfishing Club

DVTF Environmental Stewardship Plan

2025

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Wild Brown Trout from Castle Farm, May 2022

Background

In Roman times, the Darent was a much bigger river than it is today and even in the mid nineteenth century flows were several times their current levels. Over-abstraction in the twentieth century took its toll until abstraction rates were finally reduced by around 20% some 30 years ago by the Environment Agency and Thames Water after periods when the river ran dry in a number of areas. The Darent has also suffered its share of pollution, most noticeably during construction of the new road between Sevenoaks and Dartford in 1898 along the Darent Valley. This resulted in run-off, containing a water-soluble solvent from the tarmacadam, entering the river and extinguishing virtually all plant and insect life and fish along much of its length. Arguably, the river ecology has never fully recovered from this catastrophe because in the nineteenth century the Darent supported a fine head of wild trout which attracted anglers from long distances, whereas today, the wild trout population is sparce along much of the river and on some stretches has disappeared altogether.[1] It is unclear whether wild trout currently breeding in the Darent originate from the original wild genetic strain or whether they are descendants of fertile fish stocked after the major pollution event at the end of the nineteenth century.

The Darent is a chalk stream and is one of only around 200 chalk streams in the world, the overwhelming majority of which are in the southern half of England. A number of chalk streams are designated as Sites of Special Scientific Interest (SSSIs) by Natural England, although the sections of the Darent fished by the Club are not so designated. However, the unique ecology of chalk streams combined with their rarity places particular obligations on organisations such as the Darent Valley Trout Fishers to take environmental stewardship extremely seriously.

[1] more details can be found in "A brief history of the Darent Valley Trout Fishers Flyfishing Club and its waters" by D J Rees –Extended and updated by A Kalland C Lambert in 2002

The Club was founded in 1955. The stretch of the river flowing through Castle Farm was first leased by the Club founders from the Alexander family and the Club has continued to lease this water ever since. Other adjacent stretches of the Darent have been leased from local riparian owners over the years with the stretch flowing through Furlongs Farm being the most recently leased in 2006.

For many years the Club has undertaken river and bank-side maintenance and development in order to improve the river ecosystem in such a way as to encourage river plant life and insect and wild fish populations to flourish. However, whilst these activities have been worthwhile, their success has in some cases been limited and their contribution to a longer-term goal has been implicit rather than explicit.

This document seeks to create a framework for the Club's environmental stewardship activities by articulating a vision, objectives and context to guide both short and long term priorities, decisions and actions. It is an evolving document which will be revised and enhanced over time.

We are conscious that the Club faces a potential conflict of interest on this journey. On the one hand, we wish to see the development of the Club's waters in a way that encourages the ecology of the river and particularly the wild trout population to flourish so that at some point stocking becomes unnecessary on some or all of the Club's waters. However, we also need to ensure that our members can catch trout for unless they can do so, membership will dwindle and the Club will cease to exist. Stocking will therefore still be necessary for some time to come. Throughout this plan we have sought to balance these interests in a way that ensures the Club's direction of travel is environmentally positive whilst it continues to be an organisation that can attract membership and funding.

The 2025 version of this Plan

In the 3 years that have elapsed since the adoption of the first version of this plan in 2022, there have been a number of positive developments. By far the most significant of these has been the emergence of the Darent Valley Landscape Recovery Project. This project brings together farmers and NGOs to implement a radical, large-scale approach to delivering environmental and climate benefits across the river Darent and the Darent Valley.

When it was announced that the Common Agricultural Policy would give way to the Environmental Land Management Scheme (ELMS), the Darent Valley Farmer Cluster recognised the opportunities presented by a joint approach to land and river management. The cluster of 17 farmers, is now working in partnership with the South East Rivers Trust and other stakeholders, including DVTF, on one of 22 Landscape Recovery pilots in England. Included within the project plans are a number of major initiatives which align with the action plan included in the 2022 version of this plan. Some of these involve major expenditure and form part of the application submitted by the Project consortium for further Government funding. At the time of preparing this report, we await the Government's decision on this funding application. Further Background on the Partnership is available at https://youtu.be/ML_mGn6mSCU.

Acknowledgements

We are grateful for the valuable help received in the preparation and execution of this plan both from our members and from external partners including

- South East Rivers Trust

- North West Kent Countryside Partnership
- Other members of the Darent Valley Landscape Recovery Project consortium

Our Vision

Our vision for the Darent, and particularly for those section that we fish, is of a healthy watercourse with a progressively improving ecosystem such that the river supports a self-sustaining population of those species of flora and fauna and specifically the water plant life, insects and fish that naturally occurred in the river prior to the onset of the environmental degradation of the river over the last 150 years. As a Club, we will act responsibly at all times and place the environment at the heart of our policies and decision making.

Our Approach

Environmental considerations are at the heart of good governance: As a core component of our governance, the Club considers the environmental impact of its processes, rules, decisions and activities and seeks to maximise any positive and minimise any negative impact wherever feasible.

We expect our members to act in an environmentally responsible way: the Club will encourage its members to consider, and where possible to minimise, the environmental impact of their activity as fly fishers e.g. travel, waste generation, recycling and to support organisations and initiatives beneficial to achieving the Club's vision.

A holistic approach to the river ecosystem: Although the Club's waters are leased through separate licenses with each of our riparian owners, our approach to the river is holistic i.e. we treat the sections of the Darent that we lease as a single entity and prioritise our efforts (improvement projects, maintenance etc.) based on where we believe that we can have greatest positive impact on the ecosystem and on the fishing. We note that the Environment Agency's approach mirrors this and that the Club's stocking permit covers the entire stretch of the Darent leased by the Club and does not differentiate between individual sections leased from different riparian owners .

Working in partnership: Our approach is based around partnership both with our riparian owners and with organisations with whom we share common aims. Such organisations fall into several groups i.e.

- Organisations with whom we share a specific interest in maintaining and enhancing the ecosystem of the Darent e.g.
    - South East Rivers Trust and Darent & Cray Catchment Partnership,
    - Northwest Kent Countryside Partnership,
    - Darent River Preservation Society,
    - Darent Valley Farmer Cluster
    - Darent Valley Landscape Recovery Project consortium

- Organisations with particular knowledge and interests in river environmental improvement, e.g.
    - The Wild Trout Trust,
    - WildFish (formerly Salmon and Trout Conservation),
    - Angling Trust,
    - The Environment Agency

- Other Angling Clubs and Syndicates that fish the Darent e.g.
    - Park Farm Flyfishers
    - Kingfisher Angling & Preservation Society

- Educational Establishments e.g.
    - Hadlow College

Our Development Objectives

We have defined the following objectives as fundamental to achievement of the Club's vision:

1. To improve water quality and quantity

We will work towards reducing pollution and abstraction. The Club has no direct control over the primary contributors to pollution and over-abstraction but will work with other stakeholders to achieve progress and lobby those with the power to make a difference. We note that the water quality needs of trout make them a significant "indicator species" with regard to water quality and flow.

What we have already done:

- ✓ The Club samples and analyses water on a monthly basis at 3 sites. The results are published on the Club website at Environmental . This also forms part of the Darent Valley Landscape Recovery Project monitoring programme.
- ✓ The Club undertakes a programme of insect monitoring through kick sampling monthly across the season to establish the health of the river's insect population and to establish trends using the approach promoted by the River Fly Partnership. This work has been led by Martin Sutton for over 10 years and has also benefitted from the involvement of Alan Hildrew, Professor Emeritus of Ecology at Queen Mary College. Typical reports are available at Environmental . Monthly sampling by Club members is now part of the monitoring programme associated with the Darent Valley Landscape Recovery Project and the results are published on the Club website at Environmental.
- ✓ The Club carries out an annual electrofishing study in partnership with Hadlow College to monitor the health and trends in the population of wild trout and other native fish species.
- ✓ The club stocks brown trout with clipped adipose fins so that members can distinguish between stocked and wild fish. Members are required to report catches of stocked and wild fish separately so that the Club can monitor trends in the number of wild trout caught.
- ✓ We have supported several projects to fence off sections of bankside to create enclosures to reduce access to the river for livestock, thus reducing the deposition of animal waste in the river, reducing the damage to river banks and creating a buffer zone where bankside vegetation can flourish which in turn benefits the river ecosystem. The photograph to the right is an example of such an enclosure at Home Farm. This work has been complimented by planting of bankside trees and shrubs, some of which has been part of the Darent Landscape Project and has benefited from assistance from the North West Kent Countryside Partnership.

- ✓ The frequent presence of members throughout the fishing season allows us to monitor the visual quality of the water and helps to ensure that any visible pollution incidents are spotted and reported at the earliest opportunity to the Environment Agency.
- ✓ The Club subscribes to membership of the Angling Trust/Fish Legal and the Wild Trout Trust who lead the fight against pollution and abstraction and also provide guidance and support to anglers and clubs on a range of issues such as habitat improvement. We also contribute to

their fund-raising auctions by donation of guided fishing days. Habitat improvement is addressed in more detail in the section of this document addressing improvement of the river environment.

- ✓ Sadly, over the last 3 years, the number of wild trout caught by members has reduced suggesting that the presence of wild trout has declined during this period. The presence of a healthy self-sustaining wild trout population is a measure of success adopted by the Darent Valley Landscape Recovery Project and all stake-holders wish to see this negative trend reversed.

What more we will do going forward:

- ✓ We regard the monitoring of water quality, insect and fish populations as essential to understanding the health of the river and we will continue to attach a high priority to these activities.
- ✓ We will respond to Government consultations on matters impacting on pollution and abstraction of water courses and we will also encourage our members to respond as individuals. We have had limited engagement with local politicians in the past but will endeavour to engage more regularly going forward, particularly when their support is likely to help to achieve improvement e.g. on legislating to reduce the discharge of untreated sewage into rivers and coastal waters.
- ✓ Whilst abstraction was reduced some 30+ years ago following instances when the river ran dry in periods of drought, the Darent remains the 5th most abstracted chalk stream and its tributary, the Cray remains the most abstracted chalk stream. Whilst Thames Water claim to be committed to reducing abstraction, their timescale for this is excessive (currently 2040-50) and is contingent on the construction of a major new reservoir near Abingdon and meeting their leak reduction targetsThe Club is an enthusiastic supporter of a modelling study by John Lawson, FREng, FICE, FCIWEM to better understand how best to address the problem of abstraction on the Darent. This initiative is being coordinated by DRIPS and the Club has pledged funding as a contribution to supporting this this work. As at the date of this report, this work is at an early stage.
- ✓ Thames Water's Water Resources Management Plan proposes the construction of a sewage treatment plant near Otford which would discharge treated (and potentially untreated) sewage into the Darent. As a minimum, this would raise phosphate levels and encourage algae growth and at worst there would be periods when the Darent could be polluted by untreated sewage. The Club will therefore monitor the situation closely and take whatever actions are needed to protect the water quality of the Darent.
- ✓

2. To improve the river environment

We will work, where appropriate with others, to improve the environment of the river itself as a home for wild fish, insects and plant life, i.e.

Managing the growth of riverside trees and vegetation such that they contribute positively to the growth of plant and insect life in the river

What we have already done:

- ✓ The Club has always ensured that all river maintenance work is carried out under the supervision of a river or beat manager who is aware of the need to ensure that weed-

cutting, removal of bur-reed, trimming of bankside vegetation and control of overhanging trees is carried out in a way that balances the fishability of the water with the best interests of the river ecology. We are fortunate that the resident stream water crowfoot (*Ranunculus penicillatus subsp Pseudofluitans*) is flourishing. It is extremely important to the ecology of the river system and the coverage at Preston Farm is regarded by the North West Kent Countryside Partnership as possibly the best on the Darent.

- ✓ Where situations arise that require resources not possessed by the Club e.g. the removal of large trees brought down in storms that have fallen across the river and are severely inhibiting the fishability of the water, we engage with our riparian owners and/or the Environment Agency to seek their assistance. However, we note that fallen trees promote natural river processes like erosion and deposition of river gravels and providing essential spawning habitats for native wild brown trout. We will therefore only remove fallen trees when the benefits to people and property outweigh the ecological benefits of not removing them.
- ✓ We have worked with other stakeholder groups to access knowledge and funding to undertake more major improvement projects, particularly in those areas where the river flows through woodland that overshadows the river and inhibits the growth of plant life in the river. The Club's involvement in the "Relighting the Darent" initiative is an example of this. More work on this is scheduled for the winter of 2025/6
- ✓ More recently, as part of the Darent Valley Landscape Recovery Project, SERT, with support from DVTF, has introduced substantial quantities of gravel and woody debris in order to improve flows, reduce silt deposition and improve the environment for a self-sustaining wild trout population. Appendix 1 includes photographs of recent examples of this work.

<u>What more we will do going forward:</u>

Whilst all stretches of the river need careful management, the wooded sections of the Furlongs Farm beat and in the Hopgarden beat at Castle Farm are of particular concern. In both cases, overhanging trees continue to shade the river in such a way as to severely inhibit plant life growing the river. This in turn inhibits growth of aquatic insects and fish. Priority has been given to improving these areas to shed more light on the river. Where appropriate, ranunculus has been replanted to accelerate the return of the water to a state where it can support insect and fish populations. The proposal to reroute and re-meander the section of the Darent from the Dairy Field through to Barn Bend, which forms part of the major project work for which the Darent Valley Landscape Recovery Project consortium is seeking funding, would potentially eliminate this problem.

Eradicating invasive species (e.g. Himalayan Balsam)

<u>What we have already done:</u>

- ✓ We encourage members to destroy Himalayan Balsam when they encounter this by the riverside.
- ✓ In 2021 we worked with the North West Kent Countryside Partnership to organise a joint working parties aimed specifically at the removal of Himalayan Balsam

<u>What more we will do going forward:</u>

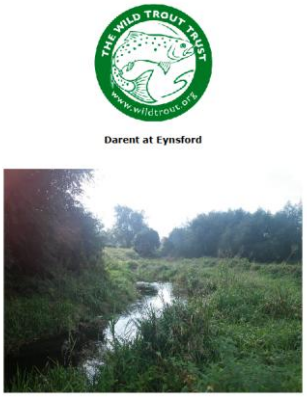
- ✓ The joint initiative in 2021 with NWKCP to tackle Himalayan Balsam was an experiment and was deemed by all to have been worthwhile. However, over the last 2 years, Himalayan Balsam has become more widespread on the sections of the river fished by the Club and we need to readdress this issue going forward.

- ✓ There is growing concern that signal crayfish (*Pacifastacus leniusculus*) may be populating the Darent and they have been observed upstream of the Club's water at Shoreham. As well as displacing the native white-clawed crayfish *(Austropotamobius pallipes),* signal crayfish can have a devastating effect on the ecology of the river ecology with adverse effects on the insect and fish populations. In the first instance, the Club will ask members to look out for them and report any they see. Whilst the actions available to us to prevent their spread are very limited, we will if necessary work with other stakeholder groups to find a way forward.
- ✓ There is a major initiative supported by the Farming Cluster to eradicate mink from the Darent Valley. A programme of trapping is underway and the initiative is benefitting from knowledge and expertise gained during the successful eradication of mink from large parts of East Anglia. This work is on-going.
- ✓ We will address other invasive species as the need arises through targeted initiatives.

Undertaking project work to improve river conditions such as to improve the environment for native fish species e.g. by increasing in-channel water velocities and reducing silt deposition through the use of woody debris, repairing damage from dredging by introduction of gravel etc.

What we have already done:

- ✓ Minor project work is an integral part of our maintenance and we have introduced flow deflectors and large woody debris in line with established best practice to improve flow rates and inhibit silt deposition at various points.
- ✓ In the years prior to publication of the first version of this plan in 2022 we engaged regularly with the Wild Trout Trust whose Project Officers have visited the river and made recommendations for works to improve the habitat for plant and insect growth and the establishment of a more healthy self-sustaining wild trout population. An example of such a report is available at Environmental



- ✓ We implemented a number of their project recommendations the most recent of which was completed in 2019 and was aimed at countering the effects of historic dredging that had led to extensive silt deposition and uncontrollable burr-reed growth. It involved the introduction of large quantities of gravel and additional deflectors on the Home Farm beat and the adjoining section of the Roman Villa beat upstream of the railw deposition, improve flows and create better areas for spawning implementation of this project are included as Appendix 2 of this plan to illustrate the magnitude of such undertakings. This project benefitted from grants from the Environment Agency and Wild Trout Trust with the Wild Trout Trust project managing implementation.

What more we will do going forward:

- ✓ As part of the Darent Valley Landscape Recovery Project, the stakeholders, including DVTF, have identified those stretches of the river that would benefit from intervention beyond the scope of routine maintenance, particularly those stretches of the river that have suffered habitat degradation, including dredging. Sections of the Preston Farm beat and at Castle Farm between Barn Bend and the Dairy Field should command a priority. In each case the land owners are supportive of solutions developed by SERT in consultation with other

stakeholders. We will continue to commit the Club's resources to such initiatives so long as we continue to have leases that ensures our continued access to the water for a sufficient period to justify commitment of the Club's resources.

Maintaining the river in such a way as to create an eco-system that encourages the growth of wild fish populations e.g. controlling weed growth in order to maintain river flows and discourage silt deposition, ensuring that gravel beds are clean and sufficiently loose for breeding fish to create redds etc.

What we have already done:

- ✓ Historically, the Club has undertaken weed cutting and gravel raking in areas regarded as suitable for redds. More recently, SERT have assisted through loan of equipment to automate the process of gravel cleaning and de-compaction.
- ✓ Members are encouraged to kill stocked fish caught in August and September so that competition for food and shelter beween stocked and wild fish is minimised over-winter. However, it must be noted that few of our members are willing to kill trout, regarding this as counter to their desire to preserve fish stocks.
- ✓ For several years, the Club sited a small hatchery on a side-stream at Preston Farm to try to kick-start the growth of a larger self-sustaining wild trout population. However, whist this seemed to have a positive effect for a few years, the Environment Agency no longer supports this approach unless the eggs imported to the hatchery come from trout from the same gene pool as those occurring naturally in the river.
- ✓ Some years ago, in partnership with the Environment Agency, the Club commissioned work by Exeter University to better understand the genetic characteristics of wild trout present in the stretch of the Darent leased by the Club. This was achieved by sampling during electrofishing at Preston Farm from fins of fish not believed to have been stocked. This highlighted 3 distinct strains, one of which was unrelated to the genetic characteristics of fish from either of the two farms supplying fish stocked by the Club.

What more we will do going forward:

- ✓ We have now adopted a more structured approach to the identification, documentation and maintenance of those areas most suited to redds. In doing so we prioritise those areas where wild trout populations have been observed in previously. These areas are subject to a specific maintenance regime i.e. weed cutting to minimise silt deposition and raking in the autumn to enable wild fish to create redds. We also minimise stocking in these designated areas to avoid competition between wild and stocked fish for food, refuge etc.
- ✓ We have previously engaged with the Environment Agency to explore ways to accelerate the re-establishment of a larger self-sustaining wild trout population without damaging the natural gene pool. Although we recognise that improving the environment for wild fish will have the greatest contribution on the wild trout population, we still plan to initiate further discussions with EA on the feasibility of kick-starting through stocking of small fertile fish from an appropriate gene pool.
- ✓ We will evolve our stocking policy over time to reduce stocking in areas where the wild trout population is flourishing with the ultimate aim of ceasing stocking in some or all stretches of the river leased by the Club.

3. To return the Darent to a state in which it can support a migratory fish population

This can only be achieved by removal or by-passing of barriers that prevent migratory fish from entering the Darent and reaching the upper reaches of the river to spawn. Removal of such barriers is essential for migratory fish to move up and down the river but is also beneficial to the wild trout population who can spread freely into areas of the river with a less well-established wild trout population. Clearly the Club can only have a direct influence on those sections of the Darent that we lease but there is at least one major barrier at Eynsford at the site of what was once Eynsford Mill. This is downstream of Eynsford Castle in the central section of the Furlongs Farm beat to which the Club does not have access to fish. However, we will work towards its removal or bypassing.

What we have already done:

- ✓ SERT has developed detailed proposals for a by-pass to the barrier at Eynsford which also involves re-routing and re-meandering a stretch of the river at Furlongs Farm. Although there appeared to be some local opposition to the proposal, SERT has worked hard to allay concerns and the project is included in the application for further government funding to implement the next stage of the Landscape Recovery Project. We await the decision on the funding application.

What more we will do going forward:

- ✓ Subject to approval of the funding, the project will be implemented over the next 3-year cycle. If the funding for the project is not approved as part of the Landscape Recovery Project then DVTF will work with other stakeholders to try to identify alternative sources of funding.

Summary of priority actions

1. We will continue to assess the fish and insect populations and water quality in those stretches of the Darent that we lease as a measure of the health of the river. Specifically, we will:

    a. undertake regular (monthly) assessments of the insect population through kick sampling analysis at specific monitoring sites

    b. Undertake regular (monthly) assessments of water quality at 3 monitoring sites

    c. Conduct annual electrofishing studies to monitor wild fish populations and supplement information derived from members' catch returns

2. We will target river maintenance in order to:

    a. Reduce and if possible eradicate Himalayan Balsam from the riverside

    b. Remove burr-reed and cut other river weed sympathetically, focussing on those areas where weed is inhibiting flow and encouraging silt deposition

    c. Maintain bank-side vegetation and overhanging trees in a way that benefits the ecosystem and encourages river plant life, insect and fish populations

    d. Continue to Identify, document and maintain those stretches of gravel most suited to the creation of redds

    e. Continue to make greater use of contractors to increase the Club's capacity to undertake such work

3. We will continue to identify and prioritise projects which will address current river features that are not consistent with our long-term vision, primarily through our involvement with and support for the Darent Valley Landscape Recovery Project. We will seek advice from external sources of expertise such as the SERT, NWKCP and the Wild Trout Trust where appropriate in order to determine how best to achieve this. Areas for which specific proposals have been developed include:

    a. Re-routing and re-meandering the river between Barn Bend and the Dairy Field

    b. By-passing of the barrier at Eynsford at the site of what was once Eynsford Mill and re-routing and re-meandering the river in the adjacent area at Furlongs Farm

    c. Improving flows in deeper narrower sections of the river through Preston Farm

4. We will evolve our stocking policy over time to support our longer term aims. Specifically, we will designate stretches of the river suited to the creation of redds and those where wild trout populations have been observed in recent years as "non-stocked areas" to minimise competition between stocked and wild fish. We will progressively reduce stocking levels over time to mirror increases in the self-sustaining wild trout population so that ultimately,

some or all of the stretches to which the Club has access can operate as true wild trout fisheries.

5. We will initiate further discussions with the Environment Agency regarding the feasibility of accelerating the enlargement of the wild trout population through reintroduction of fertile brown trout in a way that is not damaging to the gene pool.

6. We will continue to engage with Park Farm Flyfishers and Kingfisher Angling & Preservation Society to seek opportunities to work with them on a common environmental approach where this is likely to be mutually beneficial

7. We will consider whether further opportunities may exist to work with local educational establishments to leverage their skills and resources in order to achieve our development objectives.

The Club has limited resources and will therefore further prioritise as necessary based on the cost/benefit i.e. the resourcing requirement relative to the environmental benefit.

How will we manage this process?

Refining and developing the plan

- ✓ We will consult with a range of stakeholders regarding this plan and seek their views on how we can improve and develop it further. These stakeholders will include:
    - Our members
    - Our riparian owners
    - Key partners including the Darent Valley Landscape Recovery Project consortium, South East Rivers Trust, North West Kent Countryside Partnership, DRIPS, etc

Implementing the plan

- ✓ The Club Committee will assign agreed actions to appropriate members of the committee.
- ✓ The Club will consider co-opting an additional officer onto the committee to oversee and coordinate the development and implementation of the plan.

2025 Edition Version
1st November 2025

Appendix 1 – Introduction of gravel and woody debris at Preston Farm and the Dairy Field in October 2024 and 2025 – an initiative led by the South East Rivers Trust supported by the Club

Appendix 2 – Implementation of improvement project at Roman Villa and Home Farm. Project Management by Wild Trout Trust with funding from Environment Agency and the Wild Trout Trust

The objective was to address the causes of degradation of the river ecosystem in those areas worst affected by historic dredging. This had led to extensive deposition of silt, uncontrollable growth of bur-reed and a loss of gravel for redds.