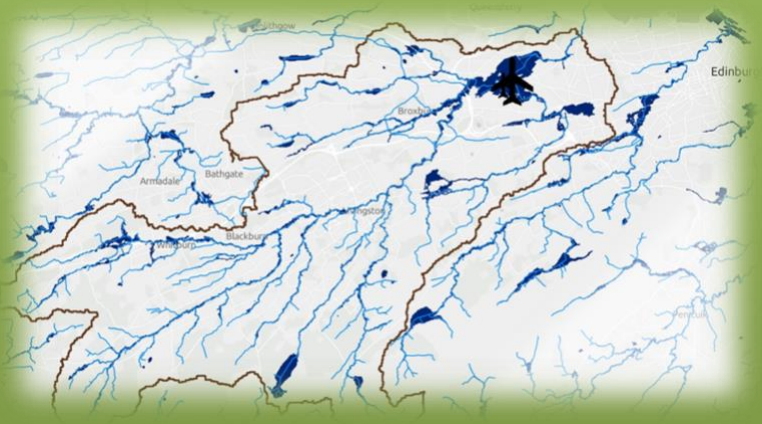
Funding Nature Based Water Solutions in the River Almond

Common interests and adaptive club development







Promoting Economic Pluralism

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Scope and responsibility

This report presents findings from a scoping study. The opportunities described require further appraisal and agreement; they are not confirmed investment or delivery commitments. The views expressed are those of the author and do not necessarily reflect those of the funders, project partners or participating organisations.

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Executive summary

Nature based measures can reduce water pressures while restoring habitats, storing carbon and improving places, but their benefits in the River Almond are distributed across different sites, assets, organisations and time horizons. This report examines how that distributed value could become credible demand for regeneration actions, drawing on catchment mapping, interviews, technical discussions, a cross-sector workshop and comparisons with established forms of collaboration. The work identified three situations with different physical and institutional requirements: upper catchment peat and land management, urban drainage around Livingston and the protection of rail infrastructure at Winchburgh from flood risk.

Approaches based on developing nature markets with a single tradable water unit attached to interventions, as promoted for carbon and biodiversity credits, will not be effective as location and system relationships are crucial to outcomes. Site conditions, drainage connections and river systems determine who benefits from interventions, while rainfall, network operations and other land use changes make distant outcomes difficult to attribute to one intervention. Funders will be looking for interventions that are likely to deliver beneficial outcomes to them, not water units detached from water systems.

Potential funders also have different duties, interests, approval processes and budgets, while land managers require viable, long-term terms for delivery and maintenance, which can reasonably adapt to circumstances. Arrangements also need to adapt to reflect changing knowledge and policy. This process is not about one-shot deals but long-term collaboration to delivery outcomes that will be required into the foreseeable future.

Place-based 'clubs' can align these different needs, create necessary agreements between funders and deliverers, and allow for adaptation and learning. The term 'club' is used to describe formal governance arrangements for managing agreements and relationships between beneficiaries, deliverers and other stakeholders with an interest in nature based solutions. Wider governance will include informal agreement and relationships, and external regulations affecting the members of any club, all of which could affect the operations of such clubs.

This report examines three generic types of clubs: traditional partnerships; recently developed contractual clubs and member governed clubs, which have been used in other sectors. Traditional partnerships can align evidence and existing programmes, but don't have mechanisms for agreements between funders and deliverers; contracts can secure defined works and stewardship, but are necessarily time limited, can require levels of certainty unusual in these complex systems and lack mechanisms for broader agreements outside specific projects; and member governance provides mechanisms where several beneficiaries and deliverers need to make repeated decisions together and adapt to changing knowledge and circumstances based on common purposes, but require significant levels of trust and investment in developing rules for collaboration. These models are not mutually exclusive as for instance member governed clubs will likely need to enter contracts with third parties and the need for different types can evolve as objectives, evidence and relationships develop. Being generic types, they can also vary significantly in their detailed design, operation and impacts, but their functionality remains constrained by their legal frameworks.

In these cases, there are plausible scenarios for how such collaboration could evolve:

- In the upper catchment, a loose partnership could coordinate separately funded carbon sequestration and/or nature credits around sites with plausible positive water impacts while developing evidence on resulting water outcomes which could then be funded through a membership governed club to allow for required future adaptation and management of a portfolio of measures.
- Livingston offers a basis for joint drainage appraisal, community participation and a portfolio of blue green measures coordinated through a partnership similar to the Edinburgh and Lothian Sustainable Drainage Partnershop while also seeking to examine evidence for flood risk reduction benefits for Edinburgh Airport and surrounding businesses. This could then underpin a similar evolution as with the upper catchment to a membership governed club, potentially even linking up to form a whole catchment membership club.
- Winchburgh probably calls for a partnership between Network Rail and developers to coordinate sustainable drainage with the potential to require upstream measures from Hopetoun Estate either through a focused project contract or wider membership club if the estate and community have continuing common interests.

There are no substantial legal barriers to creating these different types of clubs as proved by the successful precedents, however they have not become common practice. Stakeholders suggested funding and leadership were lacking, while relevant regulations and responsibilities were complex, potentially creating blame games rather than collaboration. It was also noticeable that the report faced challenges in securing stakeholder engagement, which may be down to the focus of Scottish Government, as with UK Government, policy being on private investment, nature markets and code development, rather than supporting catchment collaboration to deliver water outcomes and other benefits.

Hence the following recommendations were made to the Scottish Government:

- There is a need for specific distinct policy development on supporting catchment, landscape or placed based regeneration to deliver multiple outcomes, separate from policy development on private finance, nature markets and codes.
- This policy should develop principles for good governance of such regeneration with a learning community of practitioners and stakeholders.
- Explicit funding should be available to support building collaboration, evidence and common purpose in line with agreed principles with ensured continuation until a club is well established and can be self-funding.
- Support improved understanding of relevant regulations and responsibilities on which further collaboration can be built and blame games and funding of actions that are already required can be avoided.

1. The problem

The River Almond catchment contains flood exposure, wastewater pressures, water quality problems and risks to infrastructure that coexist but are normally managed through separate plans and business cases. Scottish Water, councils, transport operators, landholders, developers and employers may each have a reason to favour slower runoff or better water quality, but examine them only through their own siloed lenses. No single organization will take responsibility for doing a holistic assessment of whether particular water outcomes can be defined and measured well enough to support contributions from a range of beneficiaries. This creates fragmented demand: benefits to other parties are often absent from any particular organisation's appraisal, if they were to do one, so the rationale for action is understated, and no established mechanism converts shared risk reduction into a durable common commitment to deliver nature based interventions.

Public and regulated bodies may face constraints on spending outside their assets or duties and be reluctant to explore this potential as outside their normal approaches, while land managers need viable terms for changes in management, and weak data or uncertain causal effects can prevent a transaction. The analysis therefore focuses on how organisations can act together while factoring in likely ongoing, albeit potentially reducing, uncertainty.

That distinction matters because a claimed reduction in flood probability, sewer overflow or asset disruption is inseparable from location and context (Scottish Environment Protection Agency, 2015). A wetland can be specified and maintained; its effect at a particular downstream asset depends on rainfall, preceding ground conditions, other drainage works and the timing of flows from tributaries. Even where the direction of an effect is plausible, the magnitude and share attributable to one intervention may never be sufficiently certain for a standalone performance purchase. A funding mechanism should permit investment in measures with a sound physical rationale, along with monitoring and revision, without presenting a hydrological prediction as a verified commodity.

2 The work done to explore solutions

The project undertook a scoping study rather than an implementation programme. The work reviewed the initial outcomes and funding questions, mapped catchment pressures and potential interventions, examined policy and governance precedents, and held interviews and technical discussions with organisations that might benefit from or deliver measures. Participants included West Lothian and the City of Edinburgh Councils, Scottish Environment Protection Agency, Forestry and Land Scotland, NatureScot, Scottish Canals, Scottish Power Energy Networks, Network Rail, Scottish Water and community representatives, together with people working on surface water management and member governed collaboration. A cross sector workshop on 8 September 2026 tested the emerging opportunities and institutional models against practical experience.

The analysis identified and compared three situations that differ in physical scale and in the relationships they require: upper catchment peat and land management, surface water and blue green infrastructure around Livingston, and flood risk to rail infrastructure at Winchburgh. It also considered examples beyond the Almond, including a drainage partnership, contractual landscape schemes and membership bodies in other sectors. Across the cases, the central questions were where interests overlap, what prevents those interests becoming effective demand, and which governance arrangements can turn common interests into funded action.

This is necessarily a study of possibilities. Opportunity mapping has not established the feasible area for restoration or the net flood effect of any proposed portfolio; site specific design, permissions and whole life costs still require work. Some possible contributors were discussed through other stakeholders rather than interviewed directly, most notably Edinburgh Airport, so an account of its potential interest is not an investment decision by the operator. The cases that follow are propositions for joint appraisal, with observed conditions, stakeholder perspectives and analytical inference kept distinct.

3 Overview of major water issues in the Almond

From engagement with stakeholders, a tour of the catchment and use of the Climate Action Map, produced by the Edinburgh Climate Change Institute, a range of broad water issues were identified and potential nature based solutions to address them, which could be of common interest to major stakeholders.

Water quality: The Almond's water quality problems are closely connected to its urban and wastewater systems, although those systems are not the only sources of pollution. Major treatment works and combined sewer overflows contribute to pressures that have also been a focus of community concern. At low river flows, treated effluent can comprise a substantial share of water in particular reaches, although any estimate must specify the location, period and method before it is used in an investment case. Reduced dilution makes low flow resilience relevant to receiving water quality, while sediment, nutrients and runoff from other land uses must also be considered. Scottish Water's published River Almond programme acknowledges local concern and describes investment and catchment monitoring intended to improve understanding of the river and wastewater network (Scottish Water, n.d.).

Flood risk is uneven across the catchment. Project mapping identified a comparatively narrow floodplain along much of the Almond and broader mapped exposure near Edinburgh Airport and downstream businesses, with the exposed area increasing under a medium climate change scenario. The airport also faces a separate issue from the Gogar Burn, a tributary that passes beneath airport infrastructure, and Forth Rivers Trust has engaged with it on that catchment. This screening and the project discussions establish a reason for examining flood resilience; they do not establish the probability or cost of a future event, or what fraction of risk an upstream measure would remove (Scottish Environment Protection Agency, 2015).

Scottish Canals has a distinct operational interest **water resource resilience**. Cobbinshaw Reservoir in the West Lothian hills supplies the Union Canal through the Almond feeder, which is the canal's sole water supply; the feeder's aqueduct crosses the River Almond. The reliability of that reservoir and feeder system is therefore relevant to canal levels and navigation. Catchment measures might contribute to water supply resilience, but any effect on reservoir refill or the feeder would need to be carefully assessed (Scottish Canals, n.d.).

The upper catchment contains peat, including land drained and planted with commercial forestry, as well as other opportunities for changed land management. Restoring peat or slowing runoff may help retain water and improve habitat and carbon outcomes, but both the feasible area and the effects at downstream assets depend on site condition, intervention and storm sequence. Forestry and Land Scotland is a key landowner in this area and has extensive skills in delivering peat restoration (Forestry and Land Scotland, n.d.).

Urban land presents a different set of pressures and opportunities. Livingston and other built up areas contain hard surfaces, public space and drainage networks through which rain can reach watercourses or combined sewers. Retrofitted sustainable drainage and blue green infrastructure may store or delay runoff, reduce connected surface water, and improve public space. At Winchburgh, development, local drainage and the exposed railway create a more specific problem whose solution might lie near the line or farther upstream (Scottish Environment Protection Agency, 2015).

4 Potential areas of common interest

The three areas considered in the study differ in scale, likely delivery parties and the decision that would justify joint funding. Table 1 summarises potential interests.

Table 1: Candidate areas of common interest in the Almond

Area	Potential measures	Parties with possible interest in benefits	Likely land or delivery parties
Upper catchment	Peat restoration, riparian woodland and flow slowing	Scottish Water, Scottish Canals, Edinburgh Airport, carbon and nature funders	Forestry and Land Scotland and other land managers
Livingston	Surface water disconnection, swales, rain gardens and wetlands	West Lothian Council, Scottish Water, residents; potentially Edinburgh Airport	Council, developers and other site owners
Winchburgh	Local drainage improvements or upstream flow control	Network Rail, council, developers and local community	Council, developers and, if an upstream option is viable, Hopetoun Estate

Upper catchment land and peat

Upper catchment restoration could connect organisations interested in carbon and habitat to those interested in water quality, flow resilience or flood exposure. Forestry and Land Scotland has peat restoration experience and land in relevant areas, while other landowners and managers may have feasible sites; West Lothian Council and Forth Rivers Trust can contribute spatial evidence and relationships with delivery parties. Scottish Water may be interested in water quality or system resilience, Scottish Canals in the reliability of the Cobbinshaw supply to the Union Canal, and Edinburgh Airport in downstream flood risk (Scottish Water, n.d.).

Peat restoration may initially have the clearest funding rationale through carbon, habitat or existing public programmes such as the Peatland Code (IUCN UK). For instance, Network Rail is committed achieving net zero carbon emissions by 2045 in Scotland and 2050 in England and Wales, utilizing carbon sequestration and nature offsets to address residual emissions for which direct reduction technology is not yet available (Network Rail, 2020). A shared catchment strategy could nevertheless favour eligible sites with plausible water effects and pay for modelling and monitoring across them. It could also include other upland measures, such as riparian woodland or flow slowing structures, where their physical pathways and land terms are credible. A coordinated portfolio may create several benefits and reveal more about water response.

Livingston surface water and public space

In Livingston, West Lothian Council's interests in local flood risk, public land and place quality intersect with Scottish Water's interests in surface water entering sewers and the health of the receiving river. Developers and other landowners may control relevant sites or have drainage duties, while residents and community campaigners bring direct knowledge of flooding and sewage overflow concerns. Parks, swales, rain gardens, wetlands and detention areas could serve several aims if they are placed where surface water and sewer pathways make sense (Scottish Environment Protection Agency, 2015). The community's long campaign on sewer performance gives the collaboration a further purpose: joint evidence can clarify the respective contributions of the network and surface runoff, improve accountability and help clarify responsibilities.

Edinburgh Airport might benefit from reduced downstream flows, although the case for its contribution to any particular Livingston scheme has not been established. A realistic initial role would be participation in modelling or monitoring to explore whether urban measures could affect its exposure.

Winchburgh rail and drainage

At Winchburgh, Network Rail has a direct interest in protecting the railway, while the council, developers and drainage authorities have duties and assets in the surrounding area. The railway boundary is too narrow for the problem to be solved within it, so coordination with others is necessary. The unresolved physical question is whether better sustainable drainage close to the railway would suffice, or whether measures on land farther upstream, potentially within Hopetoun Estate, are required. That distinction should be tested through joint problem definition and options appraisal before any party assumes the estate is the essential provider.

Hopetoun Estate could have an interest beyond payment for a single flood intervention, since its rural enterprises and land management sit alongside a growing community at Winchburgh. A wider relationship could involve community and land objectives as well as rail resilience. Conversely, if Network Rail needs only a specified action on one estate site, the relationship may remain a narrower project agreement; the risk is that a sole feasible land provider could negotiate from a strong position. Both routes depend on actual physical options and the parties' willingness to work together.

5 Challenges in moving from common interest to collective action

Common interest becomes effective demand only when beneficiaries can approve contributions, other parties can deliver interventions, and both can accept what remains uncertain. This will only work if interests can be aligned, agreements often long-term can be made and processes are in place for adaptation as knowledge and circumstances change.

Alignment may not be straightforward: The potential contributors may have unequal resources and different spending rules: a utility's service investment, a council's local duties, a developer's planning obligations, a landholder's business and an airport's asset resilience cannot simply be aggregated or added up into one fund. Establishing reasonable cost shares is likely to involve more than modelling the fraction of downstream benefit. Available budgets, existing duties, nonfinancial contributions, the long term balance across a portfolio and the value of trust within the catchment may all matter, provided the basis for each contribution and claim is transparent.

Power is part of the challenge. Large organisations can define the outcome that counts, set the timetable and afford staff to attend meetings, while farmers, smaller land managers and community representatives may struggle to participate during working hours. If one institution fixes the problem before convening others, later collaboration can become a dispute over who is at fault or who must pay. A representative initial forum therefore needs seed funding, accessible participation and a willingness to revise its definition of the problem as new voices and evidence enter. Fairness concerns both the money and the right to influence decisions; a collaboration intended to endure will be fragile if those providing land and stewardship have little say.

Credible commitments over time to fund, deliver and steward nature-based solutions are challenging to secure. A land manager may be asked to retain peatland, wetland storage or a changed drainage regime for decades, while a funder has a shorter budget horizon and an operator needs confidence that protection will persist. Even works on public land require inspection, repair and adaptation. Binding site agreements may be necessary for access, specification, payment and liability, and the funding arrangement must distinguish the party that constructs a measure from the party that keeps it functional. Without revenue for stewardship, the intervention's initial capital cost understates the service being sought.

The largest technical challenge is the difference between implementing a measure and attributing a distant outcome to it (Scottish Environment Protection Agency, 2015). Rainfall varies in intensity and sequence; other landowners change drainage; developers add hard surfaces; engineered assets are altered or operated differently; and climate change moves the baseline itself. One can monitor whether a wetland holds water or a drain has been disconnected more readily than one can establish how much a rare flood at the airport would have differed without those changes. This difficulty does not make the measures valueless, and engineered alternatives also face uncertain future loading, but it changes the assurance that can reasonably accompany a payment. Shared modelling, pre-intervention records where feasible, monitoring of physical function and scheduled review make a portfolio more accountable without promising complete attribution. **It is clearly essential though that there are mechanisms for learning and adaptation built in** (Scottish Government, 2019). In the end, NBSs may be inevitably required as well has hard infrastructure (Black, et al., 2021), while common interests can allow for effective cross-subsidisation and shared risks, so making the inherent uncertainty easier to manage.

6 Using effective club models

Club models can be used to address the challenges in moving from common interest to collective action by establishing formal mutual commitments that each feel able to rely on to guide their action. Such models can be highly variable in the detail of how they work both on paper and in practice. This section creates a high-level typology of clubs, compares their functionality in addressing barriers to collective action and illustrates their application in scenarios for institutional adaptation. Being generic types, they can also vary significantly in their detailed design, operation and impacts, but their functionality remains constrained by their legal frameworks.

For the purposes of this analysis, we have created a high-level typology based on the main formal approaches used in each to underpin agreements between parties as they determine and limit their potential functionality:

- Coordinated partnerships are one of the most well-established approaches and generally rely on some sort of shared agreement to collaborate which may or may not be formalised into memorandums of understanding and generally don't involve the creation of any new legal entity;
- Contractual clubs, which in line with the typology, use contract law as the main basis for establishing mutual commitments and in particular, for underpinning the transfer of resources between parties involved in the club. They may also involve legal entities such as Community Interest Companies, but still rely on contracts to underpin significant commitments.
- Member governed clubs are underpinned by mutually agreed governance rules for the legal entity of which they are all members. Members then can make agreements between each other in line with the governance rules on the terms for any transfer of resources.

It is important to recognise these type of club models are only one element of governance systems that impact on water outcomes. Clubs will always have informal elements of governance that can affect their performance. So for instance, contractual clubs such as LENS also have informal approaches to engagement and decision making. Members of clubs are also likely to be subject to both general policies and regulations such as procurement rules, and specific sectoral ones such a Scottish Government policies on forest management. In section 8, we examine further the potential impacts of these external governance mechanisms.

In the following sections, these different types of model are explained further using specific examples as illustrations of how they work in practice and then they are assessed against the requirements for collective action set out in the previous section.

Coordinated partnerships

A coordinated partnership provides the lightest collective structure and is a well-established mechanism in the public, non-governmental sector and even private sector for pre-competitive activities such as joint research. Members can agree a shared account of the problem, exchange information and align their otherwise separate programmes, while each organisation retains its budget, legal powers and delivery decisions. The Edinburgh and Lothians Strategic Drainage Partnership (see **Error! Reference source not found.**) illustrates this approach to bringing council and Scottish Water responsibilities together; Scottish Water's published Craigleith programme demonstrates joint surface water delivery

in practice (Scottish Water). This model is well suited to convening and to the first phase of evidence building, but an informal memorandum does not itself transfer money, secure private land or bind a manager to maintain a measure. Specific projects still need authorised agreements of some sort, which are generally contractual, illustrating that hybrids between these types are common.

Box 1: Edinburgh and Lothians Strategic Drainage Partnership (ELSDP)

Function: Coordinates long term water management across Edinburgh and the Lothians, including surface water flood resilience, drought planning and work to remove rainfall from combined sewers.

Members: The City of Edinburgh, East Lothian and Midlothian councils, SEPA, Scottish Government and Scottish Water.

Institutional design: A strategic partnership aligns plans and develops joint priorities across existing organisations. Each scheme still needs an authorised delivery and funding route through the relevant partners.

Source: (City of Edinburgh Council, 2024)

Contractual Clubs

A contractual club assembles funders and delivery parties through binding arrangements for a defined programme. These contracts can be linked to outputs or outcomes, and may involve a special purpose vehicle which enters contracts with buyers, sellers and financiers. To be enforceable, contract performance needs to be very clearly specified, which is generally easier with outputs (e.g. create a wetland) than outcomes (e.g. reduce flood risk by 5% to Edinburgh Airport) as the this requires establishing a counterfactual ie the level of flood risk without contract performance. The counterfactual could be affected by actions by others (e.g. changes in land drainage outside land covered by the contract) and by climate change (Environment Agency, 2022).

The Wyre natural flood management project (see Box 2) uses contracts with a special purpose vehicle to combine several financiers, buyers and delivers, an adaptive period and payments linked to evidence of performance in terms of reducing flood risks. Risks of non-performance are ultimately held by financiers, who provided the loan to fund initial capital works. The problems of assessing and attributing outcomes has been clearly identified, which could clearly give rise to disputes over any proposed reductions in payments due to under performance. It should be noted that this project also uses a Common Interest Company as part of its governance arrangements showing that hybrid structures are possible and common. However the relationships between its participants are mainly regulated by contracts, hence it is classified as a contractual club.

Landscape Enterprise Networks (see Box 3) offers a different contractual emphasis: businesses and others fund specified land management activities or outputs, while they carry the uncertainty about the wider ecosystem outcomes they seek. A cascading contract system is used, with one main buyer contractor and one main seller contractor, both of whom then enter subcontracts with other buyers and sellers respectively. These contractual mechanisms don't include a formal decision-making entity so its decisions about priorities and representation depend on informal practice outside the project contracts.

Box 2: Wyre Catchment Natural Flood Management project

Function: Finances the installation and maintenance of targeted natural flood management measures on rural land for downstream flood risk reduction and associated environmental benefits.

Members and roles: The CIC board has representatives of Wyre Rivers Trust, The Rivers Trust, buyers, land managers, investors and local flood action groups, together with an independent chair. The Woodland Trust provides grant funding; participating farmers host and maintain measures.

Institutional design: A community interest company, with an asset lock, holds the central contracts and receives grant and repayable loan capital. It contracts with buyers and land managers and commissions Wyre Rivers Trust to deliver and monitor interventions.

Source: Green Finance Institute, Wyre Catchment Natural Flood Management Project Technical Case Study (Green Finance Institute, 2025).

Box 3: Landscape Enterprise Networks (LENs)

Function: Aggregates demand for landscape resilience and channels co-funding to farm and land management practices, with the funded measures and their effects monitored over time.

Members and roles: Business and public funders, including food companies, water interests and local authorities, form the demand side; farmers and other land managers propose and deliver measures, supported by local operators and independent verifiers.

Institutional design: A place based market network runs repeated annual trade cycles rather than relying on a single member owned delivery body. Funders co-finance selected practices or performance, land managers enter contracts, and external experts verify reported results.

Sources: Landscape Enterprise Networks, About LENs and How LENs Works (trade cycles, participants and verification). (Landscape Enterprise Networks, n.d.)

Member governed clubs

A member governed club would give participating beneficiaries and deliverers a continuing legal relationship through which they agree a common purpose, decision rights, contribution principles, costing principles and methods of reviewing the portfolio as well as rules for membership exit and entry and dispute resolution. In practice, they can be legally instituted under corporate or cooperative law or any legal framework that can create a legal entity with members that are able to make agreements as such. They are different from single interest clubs such as farmer clusters as they must involve the range of interested parties to make it possible for them to come to agreements as members of the same legal entity.

Research Data Scotland (see Box 4) offers an example of public institutions using a company limited by guarantee to organise an ongoing service, while Co-operative Network Infrastructure (see Box 5) demonstrates public and private membership in an infrastructure sector. Although neither operate in the water sector, they demonstrate how rules for joint

decisions can sit above individual transactions, and how members can revise strategy as evidence and circumstances change.

Internal Drainage Boards (see Box 6) also provide a relevant illustration implemented over many centuries in the water sector in England. Although developed initially as locally organised clubs to address the collective problem of drainage management in the 17th century, they were given statutory backing in 19th century which then evolved into the current arrangements through the Land Drainage Act 1991. The Scottish Government would need legislation to create bodies similar to IDBs, including providing the power to raise compulsory levies. They could though illustrate how voluntary member governed clubs could evolve if the Scottish Government determined that statutory backing and levy raising powers were needed. This could prevent free riders of the benefits of catchment regeneration and could be a low-cost approach to charging a large number of smaller beneficiaries rather than individual negotiation.

Box 4: Research Data Scotland (RDS)

Function: Makes access to public sector data for research simpler and more consistent while retaining safeguards for secure use and public benefit.

Members and roles: The Scottish Government, Public Health Scotland and the University of Edinburgh were founding partners, with further public and academic partners joining. A trustee board governs the organisation.

Institutional design: RDS is a company limited by guarantee. Its board sets strategy and oversees risk and resources; the company commissions specialist services from partners under agreements between members and makes separate arrangements with data controllers.

Sources: Scottish Government, Research Data Scotland Full Business Case (founding design); Research Data Scotland, Governance (current board and legal form). (Research Data Scotland, n.d.)

Box 5: Co-operative Network Infrastructure (CNI)

Function: Enables organisations to interconnect and share access to fibre and related digital infrastructure, they own individually, with internet service providers seeking use of these digital services.

Members: Public and private organisations, including local authorities, NHS trusts, internet service providers and telecoms companies.

Institutional design: Organisations are members of a cooperative with governance giving each organisation one vote, with monthly general meetings and trading restricted to members. Shared rules govern collective investment decisions, access and charge rates.

Sources: UK Department for Science Innovation and Technology, CNI case study (operating model) (UK Department for Science Innovation and Technology, 2026); Co-operatives UK, Rewiring the Digital Economy (membership and voting). (Cooperatives UK, 2025)

Box 6: Internal Drainage Boards (IDBs)

Function: Management of local flood risk, land drainage and water levels within defined drainage districts, balancing agricultural, development and environmental needs..

Members and roles: IDBs are governed by boards comprising representatives elected by agricultural drainage ratepayers and members appointed by local authorities, who collectively oversee strategy, expenditure and delivery.

Institutional design: IDBs are independent statutory public bodies with defined geographic boundaries, powers to raise compulsory drainage rates and local authority levies, and continuing responsibility for drainage infrastructure and water management.

Source: Association of Drainage Authorities (ADA) (2025). Good Governance for Internal Drainage Board Members (Association of Drainage Authorities, 2025)

Involvement of communities and other interests

All clubs could engage with communities and others as they generally do. However only the member governed club has potential straightforward formal, specific mechanisms for such involvement.

In terms of partnerships, public bodies will retain requirements for consultation and engagement, with the possibility for community representatives being on partnership bodies as well. However the partnerships generally don't create specific rights beyond existing ones.

In terms of contract clubs, communities are unlikely to be parties to contracts unless they are given a specified enforceable benefit from such, which would be highly unusual. Communities will have no right to view contracts between private parties, but could get access when they involve a public body under Environmental Information Regulations 2004.

In terms of member governed clubs, communities and/or their representatives could be members of such clubs and have formal decision-making rights. This will be down to the rules agreed by the parties creating the club. However the Scottish Government could influence this by developing best practice approaches for the design of such clubs as we recommend later.

Comparing club model functionality

In the previous section, we argued that collective catchment action needs clubs that can align interests including budgets and approval processes, underpin agreements on resource transfers often over the long-term and allow for adaptation as knowledge and circumstances change. In Table 2 we compare their functionality against these requirements:

Table 2: How three club models address collective action

Function	Coordinated partnership	Contractual club	Member governed club
Interest alignment	+ Aligns independent plans, evidence and potentially strategy – Each party retains its separate budget and decision powers	+ Contracts formally align interests for specific transactions – Contractual terms can be dominated by funders with greater resources – Contracts themselves cannot be used for wider, long-term strategic alignment	+ Agreeing a shared common purpose & decision-making rules is central to co-designing such a club + Members can agree a portfolio of measures to deliver outcomes – Co-design of club rules can be time consuming – More general agreements may be difficult to enforce
Resource transfer agreements	– These need separate generally contractual agreements	+ Contracts are the standard means of agreeing resource transfers – Contracts need clear performance specification, which can be difficult for outcomes in complex catchment systems – As contracts need to include responses to a range of foreseeable scenarios, they can be long and complicated	+ Members can enter into agreements like contracts + Agreements can be simple as they don't need to consider future scenarios + Members can agree to penalties for non-performance – Such agreements between members are not widely used
Adaptation	+ Coordinates evidence allowing for learning	+ Contracts can allocate risk to particular parties, who are willing to accept them + Contracts can include break clauses to allow adaptation – Contract renegotiation relies on parties being willing	+ Governance rules allow members to make collective decisions on adjusting agreements in the light of events + Members can review evidence and adapt the portfolio of measures

From this table, a number of key conclusions emerge:

- Partnerships by themselves are not designed to underpin commitments by land managers to deliver nature-based solutions for beneficiaries. Hence over the last few years contractual clubs have been developed with the Wyre Catchment Natural Flood Management (WCNFM) club being one of the first ones.
- Contractual clubs are though limited in their functionality as they are primarily designed for specific, well-defined transactions with clear performance criteria, rather than ongoing collaboration seeking to deliver a range of outcomes from a portfolio of measures in a context of uncertainty and complexity.
- Hence the WCNFM also created a CIC and LENS uses informal engagement to build common purpose, while continuing to use contracts possibly because they are a standard solution rather than considering other options such as a member governed club which is not well known.
- Member governed clubs have the wider functionality necessary to formally support fair interest alignment, long-term agreements and adaptation, however have only been implemented in other sectors apart from IDBs, are not well-recognised as a mechanism and have high set-up costs.
- This doesn't mean that contracts won't be needed as many nature-based solutions could be delivered by third party contractors on land owned by club members.
- Nor does it mean that coordinated partnerships are never the right solution as they could be an important mechanism to start developing common purpose, understanding and relationships combined with nature and carbon contracts.

So this implies the need for a strategic approach to developing club structures as we develop relationships, trust and understanding, which was a key conclusion of the stakeholder workshop on 8 September, 2026. In the next section we look at potential paths for such development.

Potential adaptive paths in the three cases

Based on the different functions of the clubs types and the potential to build relationships, evidence and common purpose, Table 3 sets out scenarios for adaptive paths for each of the different situations to illustrate how this analytical framework might be applied.

Table 3: Potential adaptive paths in the three cases

Situation	Initial arrangement	Trigger for change	Possible subsequent form
Upper catchment	Scottish Water (SW), Edinburgh Airport (EA), Scottish Canals, Network Rail (NR), Forestry and Land Scotland (FLS), and other interested landowners create a coordinated partnership facilitated by Forth Rivers Trust to align peatland restoration and other measures, separately funded with carbon and nature credits, with potential water resilience benefits and to build evidence through modelling and monitoring of benefits; FLS and 3rd parties are contracted to deliver works.	Beneficiaries, especially EA, agree that evidence of water benefits is adequate to provide direct funding, possibly supported by the Scottish Government due to the strategic significance of Edinburgh Airport.	Beneficiaries, landowner and manager deliverers, and other stakeholders co-design a member governed club and develop an initial programme of measures to test and adapt over time as evidence gathers on the benefits. In some cases 3rd parties are contracted to deliver measures while landowner members are responsible for stewardship and maintenance..
Livingston	West Lothian Council (WLC), SW, the Woodland Trust and communities establish a coordinated partnership similar to ELSDP to align SW's needs to reduce sewage overflows, the communities' interest in reduced water pollution and WLC's interest in reducing surface water flooding and improving wellbeing including developing a small, contracted project pipeline and monitoring the results including flood risk reduction.	Evidence on reduction in flood risk outcomes convinces EA to provide funding, and/or evidence suggests that action is required on private land, such as business and industrial estates.	Co-design of a members' club with as wide a membership as possible, while allowing for individual contracts with some private actors if they are not willing to become a member with the potential to contract 3rd parties to deliver some projects.
Winchburgh	Network Rail, council and developers create a coordinated partnership to developed a shared understanding of the drainage issues and responsibilities for managing drainage systems including whether measures are required upstream on Hopetoun Estate.	HE action is needed but they don't see common interests, or broader interests emerge with HE, their rural enterprises and the community.	A membership club is created to contract with HE or to include HE in a shared purpose of building resilience in the sub-catchment.

8 Policy implications

This report has set out an approach for deciding on the type of 'club' best fitted for different contexts and how the choice of type could evolve as needs change. We will now look at how policy might support the development of appropriate clubs to underpin increased funding of nature-based solutions to deliver required water outcomes and other benefits.

Clubs are legally possible

Part of the previous exploration has identified existing clubs within the different typologies. Clearly coordinated partnerships are a well-established mechanism, contractual clubs have been developed with the LENs model being most common and contracts are generally a very well-established legal mechanism, while member governed clubs have only been implemented in other sectors. These precedents do though suggest that all these types are legally possible even though awareness of the nature and potential of member governed clubs is low, although legislation would be required to provide the statutory backing and powers IDBs enjoy.

One key tension in all these clubs is between spatial collaboration and requirements for competition generally embedded in procurement and competition regulations. Nature based solutions may need to be delivered on specific land with a single owner to deliver the improvements to water ecosystems required. In these types of cases, procurement regulations do provide potential exceptions to competitive tendering requirements (S33 of the Public Contracts (Scotland) Regulations 2015), although even in this case it could be possible to contract out major works such as creating a wetland via competitive tendering. Where competitive tendering is not practical, it is possible, and generally required, to demonstrate 'Best Value' through benchmarking whole-life costs as well considering other dimensions such as service quality, risks and public outcomes. In terms of competition law, transparency and open access are likely to be key, which can be built into clubs.

In response to a query regarding Scottish Water's ability to pay clubs as a means of meeting its duties, WICS, Scotland's independent regulator of Scottish Water, stated:

"From the perspective of the economic regulator, the key consideration is whether the proposed solution delivers the required outcome under the Ministerial Objectives at the lowest whole-life cost and greatest net benefit relative to alternatives. We would expect Scottish Water to consider all viable solutions throughout the planning lifecycle and select the option with the lowest whole-life cost and highest long-term net benefit.

There is precedent for WICS treating payments to separate legal entities as allowable expenditure. For example, the predecessor water authorities to Scottish Water entered into long-term PFI arrangements for wastewater and sludge treatment and disposal, with the associated fees paid to the PFI companies recognised as allowable expenditure for regulatory purposes.

It would be for Scottish Water to satisfy itself that any such approach complies with the relevant legislation and appropriately manages any associated legal and procurement risks. WICS would not seek to provide legal advice on those matters."

In terms of the member governed club approach, CNI has done extensive work to establish systems to ensure their model is compliant with procurement, competition and other requirements. The UK Department for Science, Innovation and Technology concluded that

they had actually increased competition digital service delivery in their areas of operation (UK Department for Science Innovation and Technology, 2026). This had happened because the collaborative structure had encouraged new entrants. This could also be the case in catchment where it might encourage small landowners to engage with nature based solutions, who would otherwise be deterred by their technical, financial and legal complexities.

In summary then, there don't seem to be any significant legal or regulatory barriers to creating any of these different types of clubs. However, while coordinated partnerships and contractual clubs have developed to some extent particularly LENs, member governed clubs, which the report argues provides greatest functionality for long-term landscape regeneration, don't as yet exist in this sector.

Addressing barriers to club formation

The workshop on the 8th September (see Annex for list of organisations represented) specifically considered the barriers to club formation and suggested actions. Apart from the barriers, we identified above to be addressed by club formation, they identified two further key ones:

- The need for a leader with resources to build relationships, understanding and common purpose; and
- The complexity of different regulations and responsibilities, that can lead to a 'blame game' undermining the willingness to collaborate.

It was also noticeable that the project found it very difficult to get engagement in this exploration. One clue to why this could be, came from an email interaction with Scottish and Southern Electricity Networks' leads on natural capital, which suggested that their recognition of the value of NBSs was limited to their regulatory requirement for nature offsets rather than considerations of reducing risks to the delivery of their duties from flooding, heat or fires.

This may not be surprising given the focus of Scottish Government policy on seeking private finance to fund NBSs that deliver tradable credits in nature markets, which is also the mainstream model promoted by the Green Finance Institute for England (Green Finance Institute, n.d.). Hence the main Scottish funding instrument is called the Facility for Investment Ready Nature in Scotland (FIRNS).

This then leads to a focus on developing quantification codes for such credits so they can be standardised for market trading, most recently the Ecosystem Restoration Code (ERC) (Scottish Government, 2026), which the Scottish Government believes will attract three types of buyers:

- **Corporate disclosures / voluntary contributions** – companies buying credits to evidence progress against nature targets or 30×30 commitments.
- **Regulatory / compliance demand** – local compensation or offsetting, particularly attractive to large multinationals with biodiversity commitments.
- **Supply chain insetting** – industry investing in land managers within its own supply chain to de-risk biodiversity-related material risk (e.g. food and drink sectors).

This is very different from buying or funding water outcomes, which need to be understood in terms of a catchment water system, rather than in terms of ecosystem restoration of bits of land. Unless that wider system is considered, it is not clear whether such ecosystem restoration will deliver improved water outcomes or not. This also creates the potential for

multiple beneficiaries from these system improvements rather than the individual buyers envisaged under the ERC.

This would suggest the following policy recommendations to increase the creation of clubs to underpin funding of landscape regeneration to deliver multiple benefits:

- There is a need for specific distinct policy development on supporting catchment, landscape or placed based regeneration to deliver multiple outcomes, separate from policy development on private finance, nature markets and codes.
- This policy should develop principles for good governance of such regeneration with a learning community of practitioners and stakeholders providing the potential for further examination of the relative merits of developing approaches.
- Explicit funding should be available to support building collaboration, evidence and common purpose in line with agreed principles with ensured continuation until a club is well established and can be self-funding.
- Support improved understanding of relevant regulations and responsibilities on which further collaboration can be built and blame games and funding of actions that are already required can be avoided.
- Over medium and longer-term, consider the need for statutory backing and powers for catchment membership governance clubs.

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