Water Environment Fund
Annual Report to Scottish Government 2013 - 2014

1. Summary

1.1 This document reports the environmental improvements delivered by the restoration funding provided by the Scottish Government and SEPA through the Water Environment Fund in 2013/14. The report also outlines recent changes to how the Fund is run following the setting up of the Water Environment Fund Unit, which is a new team in SEPA to support and advise fund applicants.

1.2 The Scottish Government granted £2,000,000 for restoration projects and pilot catchments in 2013/14. This was supplemented by the Scottish Government and SEPA with an additional £370,753 for projects. £2,024,089 of this funding supported projects through the Water Environment Fund, for which this report is the main focus. All the projects receiving funding from the Fund are detailed in Annex1. £346,664 of this funding supported the pilot catchment project which is described in more detail in Annex 2.

1.3 The Water Environment Fund enabled the following environmental improvements to be made across Scotland:

- Seven ground works projects to restore channels impacted by engineering. One of these has led to an improvement in status for morphology on the Eddleston Water, with another project on track to achieve good status for morphology on the South Calder Water (Stane Gardens).
- Eight scoping studies to remove/ease barriers to fish migration and nine scoping studies to restore channels impacted by engineering
- Removal and control of bankside invasive non-native plant species in 14 fishery trust areas across Scotland.

1.4 Funded projects also brought about wider benefits to designated nature conservation sites, local fisheries and angling opportunities, community amenity and urban green space creation. Water Environment Funding has helped to lever additional funds and contributions in kind from key partners. By working in partnership with local authorities, landowners and managers, contractors, local communities and volunteers the Water Environment Fund has helped to build a greater understanding of the benefits of river restoration in Scotland and the techniques available to achieve it.

2. Introduction

2.1 Delivering improvements to the physical condition of the water environment is a key challenge in the delivery of the river basin management plans[1]. The condition of the beds, banks and shores of 22% of Scotland's water bodies are not meeting good status or potential due to an historical legacy of pressures such as barriers to fish migration and engineering. The vast majority of these pressures fall out with the scope of current regulation. The primary delivery mechanism for required improvements is the provision of support and funding for voluntary improvements and working in partnership with others.

2.2 Since 2008, the Scottish Government has provided funding for a Water Environment Fund (previously known as the Restoration Fund) to deliver non-regulatory improvements to the physical condition of the water environment. The fund has progressively increased to its current level of just over £2 million in 2013/14.

2.3 In October 2013 a new Water Environment Fund Unit was set up with the recruitment of additional posts and a management structure. This was to ensure that effective governance of the Fund was in place and that appropriate advice and support to applicants could be provided. In the short time the Unit has been in place significant progress has been made including the initiation of improvements to Water Environment Fund governance and the introduction of a case officer approach to projects. Full and effective spend of the £2m Scottish Government grant was achieved in 2013/14.

3. Delivery of Environmental Improvements

3.1 Environmental improvements have been made across Scotland in 2013/14 including:

- Seven ground works projects to restore channels impacted by engineering. This has achieved an improvement in status for morphology on the Eddleston Water, with another project on track to achieve good status for morphology on the South Calder Water (Stane Gardens).
- Eight scoping studies to remove and/or ease barriers to fish migration
- Nine scoping studies to restore engineered channels
- Removal and control of bankside Invasive Non-Native Species (INNS) in 14 fishery trust areas across Scotland.
- Improvements to two areas of community urban green space on the South Calder Water (Stanes Gardens) and East Tullos Burn

3.2 The costs of these environmental improvements is summarised in Table 1 below and projects are detailed in Annex 1.

[1] Current condition and challenges for the future.

Table 1: Summary of funding of environmental improvements in 2013/14

Project Type	Spend
Works - Morphology Improvements	£1,296,172
Works - Fish Barriers	£123,720
Scoping - Morphology Improvements	£119,596
Scoping - Fish Barriers	£274,873
INNS Control	£179,728
Habitat Restoration	£30,000
	£2,024,089

3.3 In addition to environmental improvements, the projects brought other benefits including:

- leverage of other funds from a range of partners including local authorities, landowners, fishery trusts and angling associations.
- SEPA were seen not just as a regulator but as an enabler
- better landowner and land manager liaison, with greater emphasis on balancing environmental needs with land use
- building local contractor skills base
- building and sharing good practice and transfer of experience of river restoration
- volunteer involvement
- greater understanding of the benefits of river restoration in Scotland and the techniques to achieve it.

Restoring urban rivers

3.4 Until recently, the majority of projects supported by the Water Environment Fund have been located in rural areas. However, during 2013/14, 74% of funding supported projects in an urban setting. Through projects on the South Calder Water (Stane Garden, Shotts), River Almond (West Lothian) and East Tullos Burn, the Water Environment Fund, matched with funding and support from our partners is enabling restoration of urban rivers with associated amenity benefits.

3.5 These projects are often associated with more contraints and risks and are correspondingly more expensive. This experience is being used to inform future support for urban river restoration and to help set objectives for Scotland's second River Basin Plans. For example, together with North Lanarkshire Council, the Water Environment Fund is supporting a project to restore a section of the South Calder water in Shotts. Restoring the channel form as part of wider land remediation works, this project will improve the ecological status of this water course, breaking pollutant linkages from contaminated land and creating positive green space for the local community. The Stane Gardens project is described in more detail in Case Study A.

Restoring rural rivers

3.6 The Water Environment Fund has supported morphology and fish barrier projects in rural areas over the last few years, gaining experience on projects such as Rottal burn. Scoping studies on the Bervie Water and Lunan Water are following a similar template and ground works are anticipated in 2015 and 2016.

Removing barriers to fish migration

3.7 Two reports scoping the removal of barriers to fish migration were funded in 2013/14; Culburnie Bridge Apron and River Cowie weir. Both these are now being taken forward; a fish pass on the River Cowie weir is currently at ground works and ground works at Culburnie will start early in 2014/15.

3.8 A programme of removing small weirs in rural areas was delivered in 2012. This included the removal of two redundant weirs on the Black Burn in Moray which described in more detail in Case Study B. In 2013/14 we have worked with our partners to implement a staged approach to barriers. Funding was approved and project development support provided to enabled Creamery, Corrie Burn and Culburnie to start early in 2014/15. .

3.9 In addition to progressing small weir removal in more rural areas, the Water Environment Fund has started to fund scoping studies on larger more complex structures in urban areas. Working with the RAFTS and the Local Authorities, sediment and structural surveys have been funded on seven weirs on the River Almond. Data from these surveys, together with an initial scoping study funded in 2013 will inform appropriate detailed design and a programme of physical works for each weir. This project tests a number of new approaches. It considers a suite of weirs that all have a contributing impact of fish migration up the Almond, rather than individual barriers. Some of the weirs are of historical significance and close working with the Local Authorities will be required to ensure appropriate consideration of this built heritage.

3.10 RAFTS have recently made successful applications for projects to scope removal and/or easement of weirs on the Avon and Tullynessie rivers.

Improving channels impacted by engineering

3.11 Scoping studies for eight projects to address engineering pressures have been completed this year; River Avon, River Ruel, Crooksmill Burn, River Mashie, Forth Estuary at Inch of Ferryton, Seven Lochs Wetland, Stane Gardens, Bervie Water and Lunan Water and monitoring of Rottal Burn.

3.12 The Water Environment Fund supported ground works to remove historical engineering pressures and improve river shape and function at Stane Gardens (see Case Study A), River Peffery, Eddleston Water, Ellie Burn, Lingo Burn and East Tullos Burn (see Case Study C).

Eradication of riparian Invasive Non Native Species (INNS)

3.13 This year the Water Environment Fund supported the River and Fisheries Trusts to eradicate and control bankside INNS in 14 fishery trust areas in Scotland. Invasive Non Native Species can have a negative impact on the water environment by out competing diverse native plants and shading fish spawning areas. The work carried out through these pan Scotland eradication projects has made a significant contribution to improving the riparian ecology of Scotland's rivers and also improved the understanding of the presence (and now absence) of these species. Further detail on work to eradicate INNS is described in Case Study D.

4. Phased approach to restoration projects

4.1 Projects to restore physical condition of the water environment require a staged process of scoping, options appraisal, detailed design and ground works. This process can take several years and ensures that there is adequate analysis about the cost/benefits of proposed measures and that those measures are proportionate. To support future projects a good practice guide is being produced to explain how to carry out a restoration project through this phased approach. .

4.2 The Water Environment Fund commissioned 82 scoping reports between 2008 and 2012 in order to assess where the Fund should focus. All of these have recently been reviewed to determine how they should be taken forward. There are 19 improvements that are already being progressed through detailed design to works such as the Almond Barriers project and the Avon (Forth) barriers project. There are 24 barrier removal/easement improvements and channel engineering improvements that should be taken forward and now require further engagement with key stakeholders. The majority of these could be taken forward by partners such as the rivers and fishery trusts or a local authority.

4.3 There were 39 improvements scoped that would not be eligible for Water Environment Funding. This is because structures were not considered total barriers to fish migration or they are associated with infrastructure or are the subject to a licence.

5. Establishment of a new Water Environment Fund Unit

5.1 In September 2013 a new team was put in place with an improved management structure, dedicated technical administrative support and additional restoration specialists. A case officer approach has been introduced with each potential project assigned to one of the restoration specialists for its entire life cycle. Each active project and new pre-application discussion is assigned a case officer who liaises directly with the applicant through the applications and appraisal process and if successful, during project implementation. This approach is already getting positive feedback from our partners.

5.2 A number of improvements have recently been made to the application and assessment processes in order to make the both the application and assessment of projects smoother for applicants and appraisal groups. The application form has been streamlined to make it easier for applicants to fill out. A decision document has been created to record relevant information on each project as it goes through the appraisal process providing an auditable record of a projects progress, assisting the appraisal groups and improving the governance of the Fund.

5.3 The Water Environment Fund Unit is increasing communication activities around funded projects. SEPA and North Lanarkshire Council issued a joint press release on the aims of the Stanes Gardens project and SEPA worked with RAFTS on appropriate communication with landowners, interest groups and members of the public regarding the Almond barriers surveys. A Communications Plan to better promote funded projects, environmental improvements and the fund will be developed in 2014/15.

6. Looking Forward 2014/15

6.1 The Water Environment Fund is building a more proactive approach to restoration alongside its current reactive work, with close alignment to Scotland's River Basin Management Plans. By the start of the second cycle of RBMP in January 2016, the intention is for the Water Environment Fund to be an integrated part of a financial scheme to deliver non regulatory improvements to the physical condition of Scotland's water environment. In the transition period between now and January 2016, the Fund will prioritise projects that:

- make improvements that deliver WFD objectives or scoping studies or options appraisals that inform such improvements
- take forward those eligible scoping studies already funded
- have strong partnership support and match funding
- seek multiple benefits such as biodiversity, natural flood risk management and amenity value for local communities.

Rachel Harding-Hill
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June 2014

Annex 1: Detail of projects and associated environmental improvements supported by the Water Environment Fund in 2013/14

Project name	Applicant	Cost – Water Envir.t Fund contribution	Type – scope/design/ works	Summary of project/ environmental improvement
RAFTS Barriers 3	RAFTS	£2,483.28	Scoping – Fish Barriers	Scoping fish passage on nine barriers to fish passage. Completion of a project mainly funded in previous years.
RAFTS Pan Scotland INNS control	RAFTS	£143,276.31	INNS control	75 separate water bodies were treated for Invasive Non Native Species, by 15 rivers trusts. The work covered a large geographical area from Sutherland to Dumfries and Galloway, from rural to urban locations, and is part of an ongoing programme of improvement.
River Ruel 3	River Ruel Improvement Association	£2,250.00	Scoping – Morphology Improvements	Scoping and assessment of morphology. Confirmed current classification of waterbody of good for morphology and no further WEF funding recommended.
Crooskmill Burn	Deveron, Bogie and Isla Rivers Trust	£6,670.00	Scoping – Morphology Improvements	Scoping and assessment of morphology. Scoping project could deliver improvements to the bad morphology classification
Peffery Phase 3	Moray Firth Trout Initiative	£1,606.05	Works – Morphology Improvements	Physical improvements works on a realigned stretch of water at moderate morphology classification
Glenurquhart INNS	Scottish Native Woods	£22,139.00	INNS control	Treatment of Non-Native Invasive riparian plant species in Glenurquhart and around the Inverness area on the River Ness. This has led to a significant reduction in INNS
River Cowie	Stonehaven and District Angling Association	£6,110.00	Works – Fish Barriers	Installation of a fish pass across the Intake Pool Weir on the River Cowie. Pass to be installed this year.

Seven Lochs Wetland Scope	Glasgow and Clyde Valley Green Network Partnership	£7,500.00	Scoping – Morphology Improvements	Funding for a scoping report looking into potential for surface water management and restoration options on various waterbodies. Most water bodies non-baseline so not eligible for WEF funding
Stanes Garden	North Lanarkshire Council	£13,958.70	Scoping – Morphology Improvements	Initial scoping report looking at restoration opportunities along the South Calder Water. Scoping conclusions carried on to design.
East Ayrshire Bogs	East Ayrshire Coalfield Environment Initiative	£30,000.00	Other works	Peatland/Bog drainage improvements. Committed funding for 3 years. 1st year of works has been completed.
Stanes Garden 2	North Lanarkshire Council	£1,153,000.00	Works – Morphology Improvements	Stane Gardens Phase 1 works. Urban restoration of approximately 900m of the South Calder Water. Should raise the morphological status of the water body to good.
Fisherie burn Phase 2	Deveron, Bogie and Isla rivers trust	£5,769.67	Works – Fish Barriers	Technical analysis of existing restoration and river behaviour has been carried out. This will inform restoration options. This project has yet to complete.
Rottal Burn Phase 2	Esk River and Fishery Trust	£10,000.00	Works – Morphology Improvements	Monitoring of ecology and morphology following the restoration of the burn has been undertaken.
Auchlossan Wetland Scope	LBAP, JHI	£4,637.50	Works – Morphology Improvements	An appraisal of options for restoration of the wetland has been undertaken. The options will be discussed in May 2014 by the project team and a decision made which to pursue to groundworks. Future applications likely to WEF.
River Avon/Slamanan Scope	River Forth Fisheries Trust	£16,271.00	Scoping - Morphology Improvements	An appraisal of options for restoration of the river has been undertaken and three outline restoration designs produced. An agreement in principle was reached with a landowner to trial one of the options. A detailed design for groundworks will be undertaken and an application made for funding to trial restoration.
Bervie Water Scope	Esk River and Fishery Trust	£10,534.30	Scoping - Morphology Improvements	Technical analysis of river behaviour has been carried out. This will inform restoration options. This project has yet to complete.

Lunan Water Scope	Esk River and Fishery Trust	£18,519.20	Scoping - Morphology Improvements	Technical analysis of river behaviour has been carried out. This will inform restoration options. This project has yet to complete.
Tweed INNS Phase 2	Tweed Forum	£14,312.50	INNS control	The assessment of six sites where invasive non-native species have been under control measures showed that on all sites there had been improvements in the diversity of the ground flora and restoration of the adjacent semi-natural habitats was in progress. On three of the sites invasive non-natives were no longer present at all.
Cringletie (Eddleston) Restoration	Tweed Forum	£25,530.00	Works - Morphology Improvements	This project restored over half a kilometre of river in an SAC, and contributed directly to an improvement in status class from Bad to Poor, and has laid the foundations for future work that will lead to improvements to moderate and finally good status for morphology. Also this has been an excellent demonstration project.
East Tullos Burn	Aberdeen City Council	£65,000.00	Works - Morphology Improvements	Physical improvement works creating a restored watercourse with associated wetlands. Delivering multiple benefits in a urban deprived setting, with improvements to, green space, urban diffuse pollution and morphology. Unclassified watercourse no change in classification.
Mashie Scope	Spey Catchment Initiative	£6,629.40	Scoping - Morphology Improvements	Scoping of morphology improvements on the river Mashie. Confirmed current classification of waterbody of good for morphology and no further WEF funding recommended.
Ellie Burn	Landowner	£33,407.51	Works - Morphology Improvements	Morphological improvement to a straightened tributary of Burn of Savoch waterbody. A demonstration of river restoration and wetland creation in a diffuse pollution catchment.
Almond Surveys	RAFTS	£267,778.75	Scoping - Fish Barriers	Detailed survey of 7 barriers to fish migration on the River Almond. Future easement or removal of the barriers could improve the ecological status of 3 waterbodies from Poor to Good, with 7 more moving from Poor to Moderate (Fish migration status alone would improve from Poor to Good in 11 waterbodies)
Inch of Ferryton	RSPB Scotland	£37,263.00	Scoping - Morphology Improvements	Scoping of a potential project to restore 80 ha of intertidal habitat. The project could bring the currently Poor ecological status Upper Forth Estuary to the Poor/Moderate ecological status boundary. Alone, the proposed project would not achieve Good Ecological Status and is high cost (estimated more than £4 million for engineering works).

Migdale Track Repair	RAFTS	£84,835.98	Other works	Ongoing repairs to damaged track and associated tree planting following removal of the Evelix weir.
Kempleton Repair		£4,611.04	Other works	Close down of a scoping project started several years ago to ease fish passage at a partial barrier that had no WFD classification driver.
Lingo Burn	Landowner	£2,991.10	Works – Morphology Improvement	Completion of project to improve the morphology on Lingo burn. Unclassified watercourse, no change in classification.
RAFTS Quick Hits	RAFTS	£27,004.49	Works - Fish Barriers	Completion of the removal of 5 impassable weirs. The 5 are River Luce Dam; Linn Potts Weir; Evelix Dam, 2 x Pluscarden Weirs)

Case Study A:
Stane Gardens; restoring an urban water course at Shotts

Project aim

North Lanarkshire council (NLC) received funding from the Water Environment Fund to restore a stretch of urban water course in Stane Gardens, Shotts, part of wider remediation works in the area. The project aims to improve the physical condition of the South Calder Water as well as breaking pollutant linkages from contaminated land, make improvements to public health and create a positive green space for the local community.

Project progress

The project is taking place in two phases. Phase 1 focuses on working with the existing North Lanarkshire Council project to remediate an area of contaminated land at Shotts. The project involves removing an old concrete channel and earth bank causeway to create a more natural river form. Detailed design for Phase 1 is complete and the works are currently out to tender. Commencement of the physical works will begin in late September/early October 2014 with an estimated completion date of mid to late March 2015.

Phase 2, which will seek to restore the western stretch of the project area, will be subject to a cost/benefit review in light of the significant site constraints identified in the initial feasibility and optioneering study. It is envisaged that this review will begin to take place once construction works have begun on Phase 1.

The Stane Gardens restoration project has stimulated wider amenity improvements for the local community including landscaping of an area of parkland using material from site excavations, refurbishment of an existing football pitch in the proposed park area and funding the construction of pavilion adjacent to the football pitch.

The pictures below show the existing trapezoidal channel at this site.

Total project costs for Phase 1 are £2,010,000 with £1,653,000 from the Water Environment Fund and the remainder from North Lanarkshire Council.

Case Study B:
Removal of Pluscarden weirs to improve fish passage on the Black Burn.

Project aim

The aim of this project was to improve fish access and sediment continuity in the Black Burn near Elgin, Moray. Although relatively small structures, two redundant weirs were acting as a barrier to fish migration.

Project progress

The Rivers and Fisheries Trusts Scotland, working with the Findhorn Nairn and Lossie Fishery trust liaised with the local landowners to remove the two weirs at Pluscarden. This environmental improvement in a rural location was able to be achieved quickly, in cooperation with the local landowners at a relatively low cost.

Migratory fish can now pass freely upstream improving the river's ecology as well local angling opportunities. A more natural downstream movement of gravels and other sediments is now also able to occur, and non-river type materials, namely gabion baskets, have been removed from the river bed.

The project is an example of how ecological and wider benefits can be achieved rapidly where structures have limited costs, risks and constraints associated with them, and where early approval from a structure's owner is gained. The Water Environment Fund will continue to seek out similar enhancements in the coming years.

The Water Environment Fund supported RAFTS to undertake 5 similar projects for a total cost of £124,000.

The pictures below demonstrate the difference before and after the weir removal.

Pluscarden 2 Before

Pluscarden 2 After

Case Study C:
Improving the river structure and social amenity value of East Tullos Burn.

Project aim

This project, led by Aberdeen City Council, aims to restore 700m of the river structure of the East Tullos Burn, to improve water quality and bring biodiversity and amenity benefits to local residents

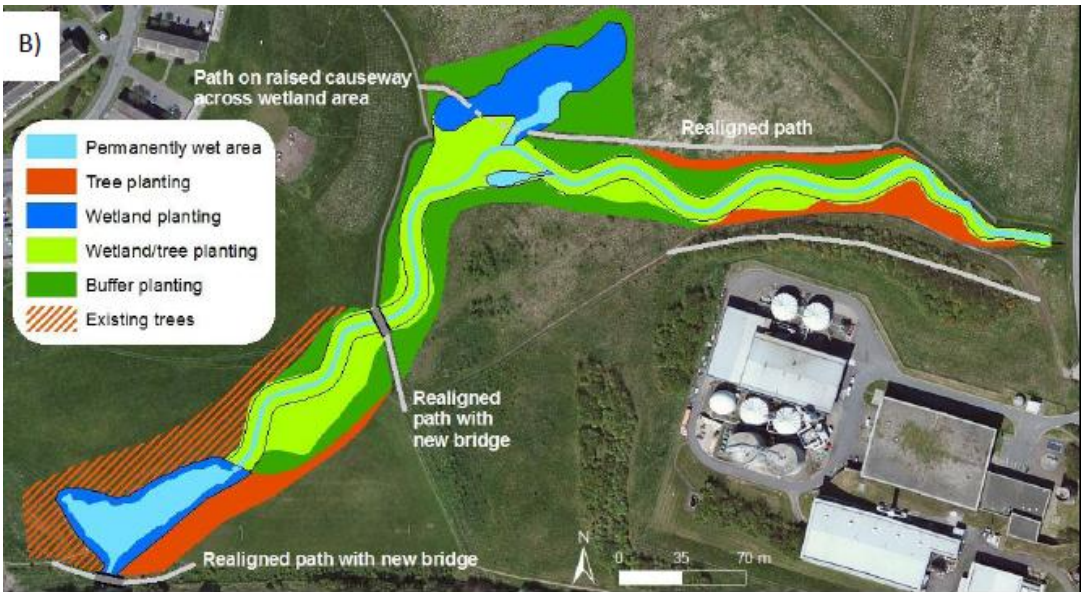
East Tullos burn is surrounded by urban and industrial development. The Torry area has high levels of unemployment and deprivation; the area adjacent to the park is within the highest 10% of deprived areas in Scotland. The green space surrounding East Tullos burn has limited connectivity to other areas and had a lack of aesthetic appeal.

Total project costs are £320,000 with the Water Environment Fund providing £100,000 for ground works.

Project progress

Scoping and design were completed in December 2012. The design was developed with community consultation including online surveys, site visualisation displays and consultation event. The local community supported 'wiggles and wetlands' and these have been incorporated into the final design.

Ground works took place between March and May 2014. The straightened channel has been improved to create a sinuous channel with associated wetlands. At the upstream end a permanently wet area with planting scheme has been developed to improve the water quality, now flowing into a watercourse with natural processes and associated wetlands. The project has improved the physical structure of the river, the water quality, and flood management. Increased biodiversity, aesthetic appeal and the development of a path system encouraging recreational use has improved the amenity value of the area for local residents. The picture below shows the project design.



Case Study D:
Pan-Scotland Invasive Non-Native Plant Species Control Programme

Project aim:

This project, led by the Rivers and Fishery Trusts Scotland (RAFTS), aims to eradicate and control the spread of Invasive Non-Native Species (INNS) along river banks across Scotland. It is a multi-year project, supported by the water environment fund and also achieves the wider benefits of preventing the spread of these species between and within river catchments. The project focuses on the control and eradication of invasive non-native plants such as giant hogweed, Himalayan balsam and Japanese knotweed, all of which can cause erosion of riverbanks, out-compete native vegetation and have the ability to spread rapidly, either through water-borne seed dispersal or re-growth from plant fragments.

The main aim of this project is to drive environmental improvement under the Water Framework Directive in those rivers which are affected by INNS and where, in combination with other pressures on the physical condition, they have been impacted by their presence. The outcomes of the project will also help to prevent the spread of established populations of INNS and therefore, contribute to preventing deterioration of rivers and other water bodies.

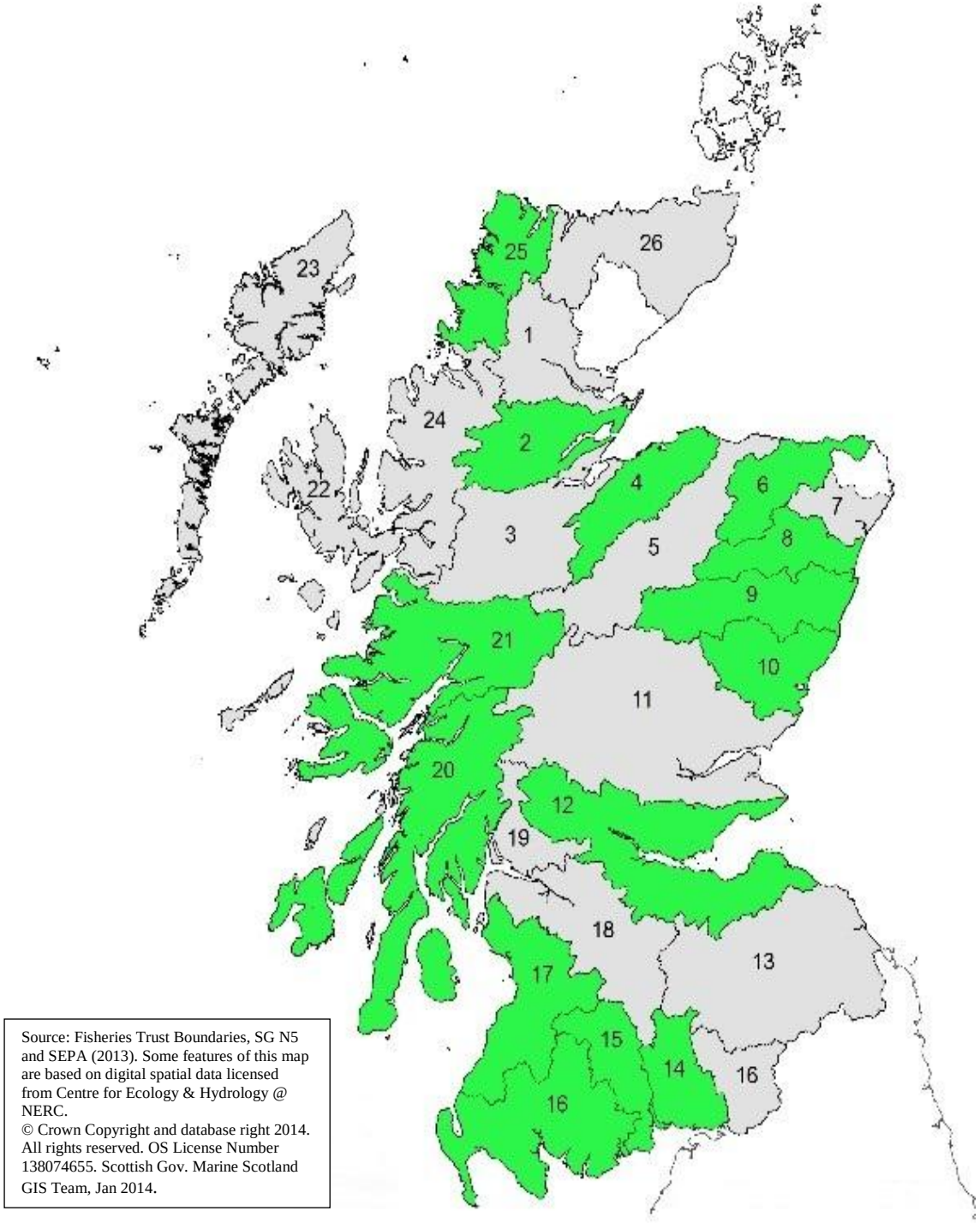
In addition to these benefits, eradication of INNS can also contribute to the achievement of conservation targets for designated conservation areas (e.g. Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs) as well as improving access and amenity value of the river banks.

Project progress

The project started in 2010 (due for completion in 2016) with 14 fishery trusts across Scotland included in the programme during 2013/14. Various control measures have been implemented, such as hand-pulling or chemical treatment through spraying and stem-injection to inhibit growth and regrowth of non-native plant species.

The project has increased awareness of the impact of INNS and how they can be controlled across Scotland. It has demonstrate how eradication of INNS is possible on large scale and, by involving contractors and volunteers, has increased the experience and capacity for INNS management.

Total project costs for the year were £426,040, of which £143,276 was funded by SEPA through the Water Environment Fund. The remaining funding came through cash contributions from other sources or as in-kind contributions from individual fishery trusts.



Source: Fisheries Trust Boundaries, SG N5 and SEPA (2013). Some features of this map are based on digital spatial data licensed from Centre for Ecology & Hydrology @ NERC.

2– Cromarty Firth FT;
4 – Findhorn, Nairn & Lossie FT;
6 – Deveron, Bogie & Isla FT;
8 – River Don Trust;
9 – River Dee Trust;
10 – Esks Rivers FT;
12 – Forth FT;
14 – River Annan Trust;
15 – Nith Catchment FT;
16 – Galloway FT;
17 – Ayrshire Rivers Trust;
20 – Argyll FT;
21 – Lochaber FT;
25 – West Sutherland FT

Annex 2: Pilot catchment project

Project aim

The aim of the pilot catchment project is to promote physical restoration at a catchment scale and explore the synergies that could be gained by combining this with natural flood management measures. There are two key objectives for this work:

1. Developing an approach for enabling catchment scale measures delivery which improves the physical (morphological) condition of the water environment and contributes to natural flood risk management, whilst also harnessing opportunities to deliver wider benefits.

2. Learning from the approach i.e. how we select catchments, how we identify and then prioritise where to undertake restoration within catchments, how measures are scoped and implemented, and critically how we engage and involve the right people along the way to ensure success.

The aspiration is to use the lessons learned to inform the second river basin management plan and enable us to target and prioritise restoration work effectively.

This project is being led by SEPA but importantly is working with a wide range of stakeholders in each of the catchments.

Project progress

Phase 1: Identifying and prioritising opportunities

During 2013/14 the identification and prioritisation of restoration opportunities (phase1) was delivered in each of the four pilot catchments: Dee, South Esk, Nith and Glazert Water. This identified and prioritised river reaches where there are opportunities for improving river habitats whilst helping to reduce flood risk within these catchments. This work helps to focus land owner engagement on the locations which can deliver the best environmental return.

In the Nith and the Dee catchments, additional field surveys were undertaken to improve understanding of the pressures, providing evidence that the extent of the restoration task is much larger than we currently think.

In each catchment early and ongoing engagement took place with organisational stakeholders. In addition, a postcard specifically aimed at rural landowners and land managers was circulated, supported by local representatives of NFUS and Scottish Land and Estates. In the South Esk, which has a dedicated SEPA officer working with land owners on the diffuse pollution priority catchment, information on the project was also provided to the farmer focus group.

Phase 2: Landowner engagement and options appraisal

Four sites (one in each catchment) were identified as options to progress to phase two. In the South Esk and Dee, these were locations where land owners had expressed an interest. In the Nith, the landowner approached SEPA in need of a more sustainable solution following breaches to his embankments in the December 2013 flood events. For the Glazert Water, the site chosen represented the best opportunity for morphological restoration on the water body.

The ultimate goal is to progress as many projects as possible through options appraisal, design and onto ground works, effectively demonstrating strategic catchment-scale restoration by 2016 which is when the project ends.

The pictures below show the kind of pressures the project is hoping to address:

High impact realignment in the South Esk & Embankments in the Nith

Over-wide and over-deep channels in the Dee

Degraded urban river environments with disconnected flood plains in the Glazert

More detailed project information, including the phase one project reports and non-technical summaries can be found at http://www.sepa.org.uk/water/river_basin_planning/implementing_rbmp/pilot_catchment_project.aspx