



Water of Leith Management Plan

Prepared for

Water of Leith Action Group

By



July 2010



Acknowledgements

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1. INTRODUCTION

This is a management plan for the Water of Leith. It is designed to last for a ten-year period (2010 – 2020) and covers all the major uses of and interests in the Water of Leith. It includes actions to deliver environmental improvement for the Water of Leith, whilst balancing the needs of all stakeholders and user groups.

The plan has been prepared for the Water of Leith Action Group (see Box 1) with funding from Scottish Natural Heritage, City of Edinburgh Council and support by the Water of Leith Conservation Trust, by Sue Bell Ecology. It is hoped that other stakeholders with an interest in the management of the river may wish to be involved in the implementation of the management plan.

1.1 Background to the plan

A number of agencies and organisations are currently involved in managing the river. Some of these, such as the Scottish Environment Protection Agency (SEPA) and the City of Edinburgh Council (CEC) have statutory responsibilities for aspects of the river's management, whilst others, such as the Water of Leith Conservation Trust (WoLCT), are voluntary organisations. A plan is needed to provide direction for all stakeholders and landowners over the future management of the river. Shared objectives and priorities will give clarity to the implementation of action along the river and a unified and agreed plan will mean greater support from all stakeholders. Defining roles and responsibilities and reporting on performance against objectives will deliver a more cohesive approach to the river's management.

It has been agreed by key stakeholders that the plan should be a working document that includes monitoring and is flexible enough to respond to funding opportunities, changes in key organisations and legislation.

Box 1: Water of Leith Action Group

The Group was established in the 1980s and meets twice a year to discuss issues that affect the management of the river. Current membership includes:

Water of Leith Conservation Trust
Scottish Environment Protection Agency (SEPA)
Scottish Natural Heritage (SNH)
Forth Ports
Water of Leith Honorary Bailiffs
Scottish Wildlife Trust
City of Edinburgh Council: City Development; Planning (Natural Heritage)
City of Edinburgh Council: Bridges and Structures
City of Edinburgh Council: Flood Prevention Team
City of Edinburgh Council: Services for Communities; Environment (Countryside Ranger Service)
Edinburgh Flood Prevention Group

1.2 Scope of the management plan

The plan focuses on management of the river from where it leaves Harperrig Reservoir, to where it enters Leith Docks at the Victoria Swing Bridge. It also considers some aspects of management of Harperrig Reservoir, and the Bavelaw Burn, which is a major tributary of the Water of Leith. Within this area, the main concentration has been on issues associated with the river between Balerno and Leith.

The Water of Leith Action Group identified a number of topics that should be addressed by the management plan: water quality, flow and flood prevention, biodiversity, geodiversity, habitat management and invasive species, access and recreation, planning and development, built heritage, landscape, archaeology, reservoirs, micro hydro, education and interpretation, and community involvement. These are all included in this plan.

1.3 Plan preparation

The plan is based on existing published and readily accessible information. A digest of the information used is published in a separate volume as a series of topic papers. Discussions with key stakeholders were also carried out during preparation of the plan. A list of organizations contacted is contained in Appendix A to the topic papers.

A public consultation exercise was carried out in May 2010. This document takes account of comments raised during the consultation exercise, and the wishes of stakeholders to participate in the plan's delivery.

1.4 Structure of the plan

This plan has been written for groups and organisations who are already involved in managing the Water of Leith, and who know and understand the issues that require to be addressed. These organisations have requested a management plan that is "action led". For that reason this document starts with a summary of the key management issues and then presents a series of summary actions, which are contained in Tables depending on the priority with which each action should be implemented. The structure of the document is:

- **Section 2** provides a brief overview of the management issues facing the river. These have been identified through consultation with the key stakeholders, and have been extracted from individual topic papers prepared for the plan (which are provided as a separate document).
- **Section 3** describes the vision, aims and objectives for the management of the Water of Leith, and includes the actions required to meet these. The actions are divided into a series of tables based on the urgency with which they should be implemented.

The plan is a stand alone document, but further background information for each subject area are contained in a series of supporting Topic papers, which are bound as a

separate document. Papers have been produced to address: management; biodiversity; fisheries; archaeology, cultural and built heritage; recreation and access; education and interpretation; geodiversity; landscape; planning; and water. Each paper summarises the historic and current situation, identifies current management initiatives, and identifies which of the overall aims, objectives and actions in the main plan apply to each topic area.

Two Figures have been produced to accompany the plan. The first provides an overview of the environmental assets associated with the river, and shows the location of designated sites and features. The second shows the location of particular site management issues. These are also bound separately.

2 SETTING THE SCENE

2.1 The Water of Leith

The Water of Leith flows over 24 miles (35km) from its source in the Pentland Hills to the Firth of Forth at Leith Docks. It passes through the historic villages of Balerno, Currie, Juniper Green, Colinton, Slateford, Roseburn, Dean Village, Stockbridge and Warriston. The Water of Leith walkway follows the course of the river for approximately 12¾ miles (18 km) from Balerno to Leith and passes through various City Parks and open spaces.

River flow is regulated via discharges from Harperrig Reservoir. The flow in the Bavelaw Burn, a major tributary of the Water of Leith, is also regulated via discharges from Harlaw and Threipmuir Reservoirs.

The upper reaches of the river lie within West Lothian Council jurisdiction, but the reservoirs themselves belong to the City of Edinburgh Council. The whole of the Water of Leith walkway lies within the City of Edinburgh Council area.

Numerous statutory and non-statutory designations are in place for parts of the Water of Leith. The river itself has been identified as a Local Biodiversity Site (LBS) and several protected species live along its banks. Sections of the river lie within an Area of Great Landscape Value (AGLV). Part of the river is within the Edinburgh World Heritage site. Scheduled Monuments, historic gardens and numerous listed buildings are also present along its banks. Further details of these designations can be found in the relevant topic papers, and the location of some of these environmental assets is shown on a Figure bound separately.

The river has a rich history dating back to pre-Roman times. There are numerous remains of the many mills that once worked the river. Today the river is used for recreation and access, providing a welcome open space through the heart of Scotland's capital city.

A number of organisations, agencies and individuals are involved in the river's management. The action of a number of these is co-ordinated through the Water of Leith Action Group.

2.2 Issues

Current issues for management of the river that have been identified during consultations for this project are (listed in no particular order):

Flood management: A major flood prevention scheme for the City of Edinburgh is being implemented. This has required purchase of, and modifications to Harlaw, Threipmuir and Harperrig Reservoirs, and will involve the construction of walls and other flood defence measures along lengths of the Water of Leith, and lowering of water levels in the reservoirs to increase storage capacity. The work has been subject to detailed environmental appraisal, and an Environmental Action Plan has been developed to mitigate likely adverse impacts. The main issues are related to the implementation of the works with the minimum environmental impact, the application of actions included in

the Environmental Action Plan, and ongoing management of flows to reduce future flood risk.

Litter and debris: Litter and debris accumulate quickly at various locations along the river. The Water of Leith Conservation Trust organises around 50 clean-up operations annually along the river between Balerno to Great Junction Street, which reduces the amount of material that is swept down river. A collection boom has been installed at the entrance to Leith Docks to prevent it from entering the docks and creating a shipping hazard. Voluntary partnerships between the Council and private landowners have been established to remove the litter around Commercial Street and at a boom at the entrance to the docks. These appear to work well, but could be altered if there were changes in personnel or land ownership. There is a proposal to install a new boom at Commercial Street. The issue for the management plan is to continue to manage and remove the vast amounts of litter and debris that enter the river, in order to retain the aesthetic and water quality.

Micro hydro generation: The potential to introduce micro hydro schemes along the Water of Leith has been investigated. From a long list of 33 possible sites, 15 sites were considered to have the technical potential for hydro schemes. Five of these were considered to have the potential to be developed in the short or medium term: Harperrig, Harlaw, Balerno Bank, Mossy Mill and Dean Weir 2. Feasibility studies to implement schemes at Harlaw, Harperrig, Balerno Bank and Dean Weir 2 have been proposed. Such schemes have benefits in terms of promoting renewable energy, and in providing links with the river's past, but there are also issues relating to impacts on biodiversity, fish populations, and measures to "re-naturalise" the river to achieve good ecological potential under the Water Framework Directive.

Water Framework Directive: This Directive, which is implemented in Scotland through the Water Environment and Water Services (Scotland) Act 2003, requires the creation of a river basin planning system that will promote sustainable water use while protecting and improving the water environment, which is being co-ordinated by SEPA. An Area Management Plan for the Forth Area Advisory Group area which includes the Water of Leith catchment will be produced in 2010. This will include a range of local measures to drive improvements. These measures will be delivered by a range of responsible authorities and through working in partnership with local groups and individuals e.g. landowners. Actions for the Water of Leith will be included within these plans.

EU Floods Directive: This is implemented through the Flood Risk Management (Scotland) Act 2009, which states that Scottish Ministers, SEPA and responsible authorities (i.e. Councils) must "exercise their flood risk related functions with a view to reducing overall flood risk". It also says that they must

- "act in the way best calculated to manage flood risk in a sustainable way";
- "promote sustainable flood risk management";
- "act with a view to raising public awareness of flood risk; and"
- "act in the way best calculated to contribute to the achievement of sustainable development".

The main influences of the Council's functions on the management of the Water of Leith are:

- carrying out clearance and repair works where they would substantially reduce the risk of flooding;
- managing Harlaw, Threipmuir and Harperrig reservoirs in order to reduce peak flows in the river during a flood; and
- constructing flood defences under the confirmed Water of Leith Flood Prevention Scheme

Public involvement: Over 4000 hours of practical work are carried out by volunteers on the Water of Leith on an annual basis. This is in addition to volunteer hours provided in association with the City of Edinburgh Council Countryside Ranger Service, and volunteer hours spent in staffing the Water of Leith Visitor Centre. The issue for the management plan is to ensure that this resource is maintained and used effectively.

Access, recreation & interpretation: The path is used by local residents and visitors. The condition of the path is monitored frequently, and measures to maintain it in a safe condition are implemented. However, it is now some time since the path was completed, and some of the signs are missing, meaning that there can be confusion about access points. New street furniture and signs have been installed at various times, and this has led to a lack of consistency in features. For example, different styles of seat can be found within a few metres of each other. A Visitor Centre was constructed as part of the walkway Millennium project. This acts as a hub for education, recreation and information related to the river and the path. The issue for the management plan is to enhance the image of the Water of Leith through improved and consistent signage and interpretation, maintenance of a physical focal point from which education and information can be provided; and increasing opportunities for residents and visitors to learn about the river.

Invasive species: Invasive plant species are present at a number of locations along the river. A four-year project, funded by the Millennium Commission targeted Giant Hogweed (*Heracleum mantegazzianum*) along the river from 2000. The flood defence works have acted as a catalyst for action to eradicate invasive species in some areas, but action is required on lengths of river not affected by the flood defence works. Also, there is a need to ensure that the invasive species do not recolonise the river from other sites in the City and to ensure that there is a long-term strategy for the control of these species. Alien animal species are also present in and along the river. This includes bullhead (*Cottus gobio*), which is thought to be interacting with native fish populations, and mink (*Neovision vision*), which may be impacting on wildfowl populations. A better understanding of the impacts of these alien animal species is required.

Installation of a major new artwork: The National Galleries of Scotland has commissioned a major new artwork by Antony Gormley entitled "6 Times". The installation comprises 6 life-size statues, 4 of which will be located in the river itself. The Galleries are drawing up a maintenance plan for the installation. There are opportunities for working with the Galleries to attract new visitors to the path and in collaborative management of litter issues relating to the statues.

3 MANAGEMENT PLAN

3.1 Vision

Our vision is of a river that we can all be proud of, now and for the future: a river that is healthy, which flows through a green corridor from the hills to the sea, is a haven for wildlife, is enjoyed and managed by the public, and is valued for its built and cultural heritage.

3.2 Aims & Objectives

The overall aims and objectives for the river (across all interests) are:

1. To maintain and create a river that is as clean and natural as possible and reaches good ecological potential within the confines of an urban setting, whilst protecting homes and businesses from flooding.
2. Increase the level of co-ordinated action between all stakeholders who hold management interests in the Water of Leith.
3. To create a planning framework that will safeguard the special qualities of the Water of Leith including its integrity, tranquillity, amenity, historical, landscape and natural heritage value.
4. To promote awareness and understanding of all aspects of the Water of Leith's natural¹, built, cultural and historical heritage.
5. To safeguard and enhance the landscape character and visual amenity of the setting of the Water of Leith.
6. To safeguard and enhance the biodiversity quality of the Water of Leith, including management of invasive species.
7. To identify, safeguard and promote features of archaeological and cultural importance.
8. To improve the water and aesthetic quality of the Water of Leith.
9. To safeguard and enhance the Water of Leith as an urban game fishery.
10. To provide opportunities for people to use, enjoy, understand, and participate in the management of, the Water of Leith
11. To provide a path of high quality and promote its responsible use.

These 11 objectives have been developed by combining similar objectives for each of the individual sectoral interests that have been considered by this plan (See Topic Papers, bound as a separate volume). Further details of how a specific objective relates to a particular topic can be obtained by referring to the individual topic papers.

3.3 Actions

Actions required to meet these aims have been identified within individual topic papers prepared for this study (bound separately). Some actions are common to more than one topic (e.g. actions relating to interpretation). Tables containing consolidated lists of all the actions are provided below. The actions have been sub-divided into six tables depending on the urgency with which they should be implemented. The categories are:

¹ Includes biodiversity, geodiversity and landscape

- **Current management actions** – these are things that are already happening, and which it is anticipated will continue during the lifespan of the plan.
- **Actions already agreed for implementation 2010- 2011, or which can readily be introduced** – there is already a commitment for these actions to happen. It also includes actions that could readily be introduced with current resources.
- **Short term** – these are actions that should be implemented as soon as resources allow, and certainly by 2013.
- **Medium term** – these are actions, which whilst important, are not the most pressing priority for action, but should be completed by 2017.
- **Long term** – these are actions which may take more time to implement, or are of lower priority.
- **Actions to be implemented as opportunities or circumstances arise** – this includes a number of actions which could be implemented at any time but require to be triggered by external factors.

Within each table the actions have been grouped to distinguish those items that are related to policy and planning from those that are practical in nature. The actions have been developed from the actions identified for each topic. Numbers in brackets after each action provide a cross-reference to the topic paper that has acted as a source for that action. For example W3 means that the action is listed as action W3 in the water topic paper. The original topic paper should be consulted for more information about the background to each action.

The agencies and organisations involved in the implementation of each action are also shown, with the lead agency identified in **bold** type. Targets for each action are shown in a separate column. The success of each action should be recorded against these targets on an annual basis.

The locations for particular actions are shown on the Figure entitled Site Management Initiatives.

3.3.1 Ongoing actions

It is important to recognise that there are many good management actions already in place for the Water of Leith. Table 1 highlights existing good management and the organisations involved in its implementation. It is anticipated that these actions will continue throughout the life of this plan.

Table 1: Current management actions, which it is anticipated will continue during the lifespan of this plan. (The Lead Agency is shown in bold type. Codes in brackets provide a link to the relevant topic paper (s) from which the action originates).

Action	Organisations involved (lead body shown in bold) ²	Milestones & targets
Actions relating to policy and planning (Codes in brackets indicate source of action)		
A1: Ensure that there is liaison between the WoLCT and CEC Countryside Ranger Service, & CEC Countryside Ranger Service and other Council Departments, concerning immediate management/maintenance concerns (See M4).	WoLCT, CEC CRS Liaison with other Council Departments	Weekly contact.
A2: Monitor the implementation of relevant policies in existing local plans (specifically those relating to Waterside development as applied to the Water of Leith). Monitoring should focus on how policies have been applied to decisions, and how these have been implemented on the ground. (See P1)	CEC Development Planning City -	Completed and approved development to be monitored in terms of relevant policies.
A3: Policy initiatives that promote and safeguard the Water of Leith as an important landscape, amenity, historical and natural heritage asset should be supported (e.g. Central Scotland Green Network). (See P2)	CEC Development Planning, EWHT City -	a) Identification of all wider policy initiatives relevant to the Water of Leith. b) Participation in at least 2 policy initiatives.
A4: Continue to work in partnership and provide support for the Water of Leith Conservation Trust, Edinburgh World Heritage Trust & the Honorary Bailiffs (See P4).	CEC (various Departments), EWHT	Ongoing.
A5: Implement actions required under the Water Framework Directive as set out in the River Baseline Management Plan Water Body Information Sheets (See W7).	SEPA	See targets set in River Baseline Management Plan Water Body Information Sheets.

² Organisations are: WoLCT – Water of Leith Conservation Trust; CEC CRS – City of Edinburgh Council Countryside Ranger Service; RIGS – Lothian and Borders RIGS Group of the Edinburgh Geological Society; SEPA – Scottish Environment Protection Agency; WoLAG – Water of Leith Action Group; EWHT – Edinburgh World Heritage Trust; PHRPRS – Pentland Hills Regional Park Ranger Service; HS – Historic Scotland; SNH – Scottish Natural Heritage.

Action	Organisations involved (lead body shown in bold)²	Milestones & targets
A6: Implement actions specific to the Water of Leith that are included in the Edinburgh LBAP, 2010 – 2015 (B2).	Various organisations	Targets included in LBAP.
Actions relating to practical projects		
A7: Monitor the physical condition of the path to ensure that it is safe and fit for purpose & complete actions in Water of Leith Maintenance Plan, including improvements to access points (R1 , R2 , and R5).	CEC CRS, WoLCT	a) Minimum of monthly checks. b) Completion of actions listed as priority 1 – 3. c) Completion of actions listed as priority 4. d) Completion of improvements to 2 – 3 access points.
A8: Implement a programme of events for volunteers including litter clean-ups, habitat management projects, assessments of condition & use etc. (See M3 , B9 , W13)	WoLCT, CEC CRS, PHRPRS, (National Galleries of Scotland for litter around 6 Times artworks).	a) Targets to be set on annual basis through WoLCT Business Plan & CEC CRS work plan b) Annual habitat management project c) c. 50 litter collections per year.
A9: Provide visits and support to community groups (E1 , E4).	WoLCT, CEC CRS	Targets to be set annually in WoLCT business plan and CEC CRS work programme.
A10: Provide guided walks along the river on a variety of themes e.g. geology, biodiversity, cultural history (See B7 , H12 , E2 , G5).	WoLCT, CEC CRS, (Will require liaison with RIGS, CEC Archaeologist)	a) For specific initial targets for individual topics see individual action points (B7, H12, E2 & G5). b) Targets to be reviewed annually in WoLCT business plan and CEC CRS work programme.
A11: Provide education programmes linked to curriculum for excellence to school groups. To cover all topics e.g. cultural heritage, biodiversity (See B7 , H13 , E3).	WoLCT, CEC CRS, EWHT	a) For specific initial targets for individual topics see individual action points (B7, H13, E3). b) Targets to be reviewed annually in WoLCT business plan and CEC CRS work programme.

Action	Organisations involved (lead body shown in bold) ²	Milestones & targets
A12: Undertake monitoring of fish populations (F1).	Honorary Bailiffs CEC Services for Communities. Potential for Student projects	a) Annual assessments. b) Maintain populations throughout river. c) Mixed age class fish. d) Catch per unit effort to be maintained.
A13: Undertake an annual programme of stocking with brown trout. (F2).	Honorary Bailiffs	Numbers to be determined on annual basis depending on monitoring data and fishing effort.
A14: Maintain programme of raking spawning beds. (F6).	Honorary Bailiffs	Major beds to be raked.
A15: Publicise the fishing on the Water of Leith through articles, notices etc. (F13)	Honorary Bailiffs , WoLCT, CEC CRS	a) Install 12No. notices per year at various locations. b) One article per year in the press.
A16: Continue to make the RIGS leaflet available at the Water of Leith Visitor Centre and CEC CRS Visitor Centre at Hermitage of Braid & monitor the number issued. (See G2)	WoLCT , CEC CRS,	Paper copies of the leaflet should always be on display and available to visitors.
A17: Implement programme of chemical and biological monitoring and assess against current standards (See W10).	SEPA	Meeting WFD targets.
A18: Manage river flows to minimise flood risk to homes and properties using the best available means to measure flows and control levels. (W6)	CEC City Development (will also require liaison with Forth Ports)	a) Flows meet other targets; b) flood risk reduced from current levels and actively managed.
A19: Litter and debris should be removed from the river (See W13 , W14).	WoLCT , CEC Neighbourhood teams , CEC structures & flooding , Forth Ports, Water of Leith 2000	Targets are set for individual Action Points: a) Maintain programme of around 50 clean-ups per year organised by WoLCT. b) Discuss litter collection at stakeholder meetings. c) Collection methods agreed and implemented at booms.

Action	Organisations involved (lead body shown in bold)²	Milestones & targets
A20: Remove, monitor and prevent the spread of invasive plant species (includes control measures implemented under the flood defence scheme and use of volunteers for hand pulling of Himalayan balsam). (B10 , B11)	CEC City Development – Services for Communities, CEC Structures & flooding (until end of implementation of flood works only), WoLCT , Honorary Bailiffs, CEC CRS	Survey and undertake control work annually on both watercourses.
A21: Safeguard water quality through reporting all suspected pollution incidents to SEPA (See W8).	All organisations and individuals	Number of incidents recorded.

3.3.2 New Actions that are a priority for implementation

Table 2 lists actions that are already agreed and about to be introduced (e.g. in association with the flood defence works), or which could be introduced relatively quickly and easily with existing resources.

Table 2: Actions already agreed for implementation 2010 – 2011, or which can readily be introduced with current resource allocations. (The Lead Agency is shown in bold type. Codes in brackets provide a link to the relevant topic paper (s) from which the action originates).

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ³	Milestone & Targets
Actions related to policy and planning		
A22: Increase representation of different interests within the Water of Leith Action Group (WoLAG). A priority should be including archaeological/ cultural heritage expertise (See M1 , H8).	WoLAG Organisations who might be invited include CEC Archaeologist, HS, EWHT	At least one cultural heritage representative on WoLAG.
A23: Expand stakeholder involvement in the sustainable management of the Water of Leith by instigating a Water of Leith stakeholders meeting ⁴ . (See M2 , H9)	WoLAG, WoLCT,	a) Hold initial meeting (e.g. to discuss this management plan). b) Hold meetings on regular basis (either annually, or every two years – to be decided at first meeting).
A24: Develop a flow chart that clearly explains the different responsibilities with respect to the Water of Leith of each Council Department & circulate this within the Council and the Water of Leith	CEC City Development, CEC All Departments	Creation & distribution of chart to interested bodies e.g. EWHT.

³ Organisations are: WoLCT – Water of Leith Conservation Trust; CEC CRS – City of Edinburgh Council Countryside Ranger Service; RIGS – Lothian and Borders RIGS Group of the Edinburgh Geological Society; SEPA – Scottish Environment Protection Agency; WoLAG – Water of Leith Action Group; EWHT – Edinburgh World Heritage Trust; PHRPRS – Pentland Hills Regional Park Ranger Service; HS – Historic Scotland; SNH – Scottish Natural Heritage

⁴ The meeting should be open to all organisations and groups who have a significant management role or interest in the management of the Water of Leith. During the preparation and consultation periods for this plan, the following organisations noted an interest in being involved in this meeting: CEC Archaeologist; CEC Forest Service; CEC Museums Service; CEC Neighbourhood Management Team leaders; CEC Services for Communities; Community Councils; Edinburgh Flood Prevention Group; EWHT, Greener Leith; Historic Scotland; National Galleries of Scotland; Pentland Hills Regional Park Ranger Service; Rosebery Estates; Water of Leith 2000. N.B. the final list of stakeholders will not be limited to these bodies.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ³	Milestone & Targets
Action Group (M6).		
A25: Seek funding to support the development of new interpretation materials and refresh of interpretation in the Water of Leith Visitor Centre. (See E6, E13, E14)	WoLCT	a) Achieve funding for (at least) one interpretation project. b) Refresh of interpretative displays in Visitor Centre.
A26: Participate in the development and implementation of the management plan for the Edinburgh World Heritage Site. (see H6)	CEC City Development Planning, WoLCT, Archaeologist, Museums Service - EWHT, CEC	Provision of comments relating to Water of Leith.
A27: Agree compensation flows post construction of flood defence scheme, which allow for ecological (including fish) requirements in the river and the reservoirs, and ensure that flows at Colinton are achieved by discharges along both the Bavelaw Burn and Water of Leith (See F10, W5).	SEPA, CEC City Development Structures & Flooding, Honorary Bailiffs -	a) Flows are adequate to retain trout populations in the river. b) No adverse impacts on fish populations in reservoirs. c) Flow safeguarded in both river channels. d) Assessment of flow rates on levels in the reservoirs.
A28: Identify causes of water quality downgrading through actions identified by SEPA in Water Body information sheets (See W11).	SEPA, Scottish Water	Meeting WFD targets.
A29: Litter and debris should be collected at the boom near the Victoria Swing Bridge and near Commercial Street, through appropriate mechanisms including voluntary agreements between the council and private landowners. (See W14)	CEC Neighbourhood Teams, CEC Structures & Flooding, Forth Ports plc, Water of Leith 2000	a) Discuss litter collection at stakeholder meetings. b) Collection methods agreed and implemented.
A30: Liaise with the River Forth Fisheries Trust & Forth District Salmon Fishery Board to identify areas of common action (See F14).	Honorary Bailiffs, Forth District Salmon Fishery Board, River Forth Fisheries Trust, WoLCT	a) Hold meeting b) Identification of lists of common aims/actions.
Actions relating to practical projects		
A31: The implementation of mitigation, landscape and habitat restoration works associated with the Water of Leith flood prevention schemes should be monitored (See the Environmental Action Plan for	CEC City Development Structures & Flooding -	a) Two surveys of invertebrates and fish. b) Achievement of targets and actions in the Environmental Action Plan for the flood

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ³	Milestone & Targets
the scheme). This includes monitoring of fish and invertebrates on the Water of Leith, water quality, and landscape (See B3 , B4 , F7 , L3 , W16).	& Natural Heritage , SEPA, WoLCT , Honorary Bailiffs, Flood defence contractors	defence project.
A32: Identify opportunities to include details about the Water of Leith in interpretation material produced for other purposes e.g. information about public parks, in interpretation commissioned for “6 Times”, the Antony Gormley statues. (See B5 , E12 , E16 , G6)	CEC Services for Communities (Parks & Green Spaces) , WoLCT , National Galleries of Scotland , RIGS, PHRPRS	a) Information to be included as boards are updated in the Parks (e.g. Saughton Park). b) Inclusion of information about the path in the “Six Times” information. c) Inclusion in material produced by the Pentland Hills Regional Park. d) Inclusion of information about geological features.
A33: Publicise the Water of Leith in the media (See E11).	WoLCT , National Galleries of Scotland, EWHT	To be set on an annual basis as per WoLCT business plan.
A34: Make copies of the brass rubbing trail available through the Water of Leith website (E19).	WoLCT	Trail available on website.
A35: Make copies of interpretation maps & materials available through relevant websites. E.g. RIGS geology leaflet (See E20 , G3).	WoLCT , National Galleries of Scotland	Information to be available to download/purchase via the website.
A36: To encourage the involvement by Saughton Prison in supporting biodiversity initiatives along the river e.g. construction of bird and bat boxes. (See B14)	CEC CRS , WoLCT , Saughton Prison Authorities	Construction and installation of bat and bird boxes.

3.3.3 Short Term

Table 3 lists actions for implementation during the short term, which has been defined as by 2013 for the purposes of this plan. They may be introduced earlier than this if opportunities arise.

Table 3: Actions to be implemented in the short term (by 2013). (The Lead Agency is shown in bold type. Codes in brackets provide a link to the relevant topic paper (s) from which the action originates).

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁵	Milestones & Targets
Actions related to policy and planning		
A37: Develop a system of collaborative working to enable sharing of digital data between different agencies and Council Departments involved in managing the Water of Leith (e.g. through the creation of a single GIS system or use of the Parks Asset Database Management System (ADMS) (See M5 , B8).	CEC – all relevant departments , WoLCT, SEPA, SNH, HS, EWHT	a) Creation of data sharing protocol. b) Discussion of data sharing issues at stakeholder meetings.
A38: Identify new “outreach” centres, which will provide information about the river. e.g. RIGS geology leaflet. This should include existing Council resources and visitor centres (e.g. notice boards, Winter Gardens), facilities in the Pentland Hills, and new locations (e.g. National Galleries, cafés, libraries and new premises). (See M7 , E7 , E12 , G4 , G6)	WoLCT, CEC Parks and Green Space , CEC CRS, PHRPRS, National Galleries of Scotland, Lothian & Borders RIGS (Discussion will be required with potential “outreach” centres e.g. Forth Ports, cafés, private businesses etc.)	a) Distribution of path maps & RIGS leaflets through Saughton Winter Gardens. b) Installation of interpretation material in Saughton Park (as boards are updated). c) Installation of interpretation material in Roseburn Park (as boards are updated). d) Installation of materials in relevant libraries (e.g. Stockbridge, Leith). e) Establish two outreach centres.
A39: Revise the 1995 Water of Leith Landscape Resource Study to provide an updated base line with which to monitor landscape change and provide information to inform consultation response. (See L1 , P3)	CEC City Development Planning , WoLCT	Completion of survey.

⁵ Organisations are: WoLCT – Water of Leith Conservation Trust; CEC CRS – City of Edinburgh Council Countryside Ranger Service; RIGS – Lothian and Borders RIGS Group of the Edinburgh Geological Society; SEPA – Scottish Environment Protection Agency; WoLAG – Water of Leith Action Group; EWHT – Edinburgh World Heritage Trust; PHRPRS – Pentland Hills Regional Park Ranger Service; HS – Historic Scotland; SNH – Scottish Natural Heritage.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁵	Milestones & Targets
A40: Progress detailed surveys of gardens and designed landscapes of regional and local importance, which lie on the Water of Leith corridor or within its immediate visual envelope. (see L2)	CEC Development Planning City -	Completion of surveys.
A41: Develop and implement a strategy for weir retention/removal, which addresses weirs as barriers to fish passage and as potentially important cultural resources. This will require an audit of weirs along the river to identify their condition, cultural significance and impact on fish passage; a review of existing data on fish habitats to identify benefits of removing individual weirs; and stakeholder meetings. (N.B. the assessment of benefits to fish passage will need to be assessed within the context of barriers to fish passage presented by the lock gates at Leith) (See F9 , H2 W3).	SEPA, CEC City Development, Archaeologist, Honorary Bailiffs, WoLCT, HS (May require liaison with Forth District Salmon Fishery Board/ River Forth Fishery Trust)	a) Conduct analysis of existing data relating to fish spawning habitat and barriers to fish passage. b) Conduct audit of weirs. c) Hold meeting to discuss strategy. d) Agree strategy.
A42: Review infrastructure provision including locations (e.g. litter bins, seating) and assess the need to provide additional features or re-locate existing provision. (See R15)	CEC CRS, WoLCT	Conduct a review on a five-year basis.
A43: Support actions relevant to the Water of Leith contained in the Open Space Strategy, Active Travel Action Plan and other CEC Council documents that promote open air recreation and non-motorised travel. (See R3)	CEC CRS, CEC Planning Services, WoLCT	a) Completion of relevant actions
Actions relating to practical projects		
A44: Prepare an audio trail(s) for the river, which can be downloaded from the internet. (B6 , H17 , E8 , G7)	WoLCT, CEC CRS, National Galleries of Scotland, EWHT. (Discussion will be required with CEC Archaeologist) (Possible student media project?)	a) Completion of single trail covering all topics that can be downloaded from website. b) Preparation of trails for individual topics.
A45: Identify opportunities to deliver joint education programmes with other groups to provide “added value” (E5).	WoLCT, CEC CRS, PHRPRS, National Galleries of Scotland, EWHT.	One project per year.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁵	Milestones & Targets
A46: Refresh the interpretation material within the Water of Leith Visitor Centre. Include a panel/interactive display about geology and cultural heritage, litter, water quality and quality of biodiversity (See B5 , H15 , E14 , G1 , W15).	WoLCT, CEC CRS, CEC Archaeologist, CEC Museums Service, Lothian & Borders RIGS, EWHT	a) Secure funding for refresh of materials. b) Implementation of new display on target topics.
A47: Monitor the location of spawning beds and trout habitat. (F8)	Honorary Bailiffs	a) Assessments at completion of flood defence works. b) Repeat assessment on 5-year cycle. c) No reduction in number of spawning beds
A48: To work with community police to encourage young people to take up fishing. (F12)	Honorary Bailiffs, Community Police	Seek funding to hold one event every two years.
A49: Conduct an audit of cultural heritage resources associated with the river channel, including weirs & identify structures/ features of cultural importance that are in poor state of repair/ are at risk e.g. from erosion, self-sown trees etc. (see H1 , and H3 , H4)	CEC Development Department, CEC Archaeologist, EWHT, WoLCT, CEC Structures & Flooding, CEC CRS, CRC Forest Service & others ⁶ . Scope for student project	a) Seek funding for audit. b) Completion of audit. c) Produce schedule of features at risk. d) Produce work programme for addressing features at high risk.
A50: Introduce woodland management programme to safeguard cultural features at risk. (See H4 , H5)	CEC Forest Service, CEC Archaeologist with support from, CEC Services for Communities, CEC CRS	Production of work programme to address trees of concern.

⁶ Designation information is available online via HS website; SEPA may assist with assessment of weirs in relation to fish passage; liaison may be required with Royal Commission for Ancient and Historic Monuments and Scottish Civic Trust who compile the Risk Register for Historic Scotland.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁵	Milestones & Targets
A51: Hold an exhibition of artefacts associated with the Water of Leith (H16).	WoLCT , CEC Archaeologist, CEC Museums Service	Hold exhibition

3.3.4 Medium term

Table 4 lists actions for the medium term, which has been defined as by 2017, or before if opportunities arise.

Table 4: Actions for the medium term (to be implemented by 2017 at the latest). (The Lead Agency is shown in bold type. Codes in brackets provide a link to the relevant topic paper (s) from which the action originates).

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁷	Milestones & Targets
Actions relating to policy and planning		
A52: Develop and implement an ecological management plan, which should include: <ul style="list-style-type: none"> • Identification of ecological management compartments along the river valley (to be conducted in conjunction with the survey of woodland along the river that has been conducted); • Identification of areas where there is the potential for habitat enhancement/creation or the restoration of habitat links; • Production of detailed ecological objectives and prescriptions for each management compartment⁸. The principle of establishing continuous riparian vegetation is likely to underlie these objectives (See B1). 	WoLCT, CEC Forestry Service , CEC CRS, CEC City Development	a) Identification of management compartments. b) Identification of areas with potential for habitat enhancement. c) Production of ecological objectives and prescriptions.

⁷ Organisations are: WoLCT – Water of Leith Conservation Trust; CEC CRS – City of Edinburgh Council Countryside Ranger Service; RIGS – Lothian and Borders RIGS Group of the Edinburgh Geological Society; SEPA – Scottish Environment Protection Agency; WoLAG – Water of Leith Action Group; EWHT – Edinburgh World Heritage Trust; PHRPRS – Pentland Hills Regional Park Ranger Service; HS – Historic Scotland; SNH – Scottish Natural Heritage.

⁸ This would need to interact with the Edinburgh Woodland Strategy, and the Environmental Action Plan for the flood defence works. It would provide the context for planning community based projects e.g. locations for wildflower planting, removal of invasive species, placing of bat boxes etc. It would also act as a mechanism to identify areas of land adjacent to the river, which are not in Council ownership, but where management arrangements with adjacent land owners

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁷	Milestones & Targets
A53: Identify opportunities to improve surface finishes to improve the attractiveness of the route to particular users such as cyclists, without detracting from landscape character, as funding permits. (See R16).		
A54: Develop a lighting strategy that reviews current provision, the criteria for allowing any additional lighting and which provides guidance on style and design of replacement lights (R18).	CEC City Development	Development of strategy.
A55: Raise public awareness of procedure for reporting suspected pollution incidents (See W9)	SEPA , WoLCT , Honorary Bailiffs	Production of awareness-raising materials
Actions relating to practical projects		
A56: Install orientation boards at key locations (E9 , G6).	CEC CRS , WoLCT , CEC Services for Communities (Parks & Green Spaces) , Lothian & Borders RIGS, National Galleries of Scotland, EWHT. (Discussion will be required with CEC Archaeologist) Scope for private sponsorship.	Installation of five boards (Balerno, Saughton Park, National Gallery of Scotland, Stockbridge, Leith).
A57: Installation of additional signs (using the “brown waterwheel” logo (See R4 , E18).	CEC CRS , WoLCT . Discussion with ScotWays.	Installation of three new signs ⁹ .

should be established as a matter of priority. It should include details of locations suitable for habitat enhancement and provide detailed prescriptions to achieve this e.g. species mixes to use, methods of establishment, cutting frequency etc.

⁹ There are a number of locations where improved signage is required. Of these locations priority should be given to: (1) signage of the path in Leith (there are no signs north of Sandport Place), (2) within Saughton Park (3) off Balgreen Road, (4) Redbraes Weir. These are shown on the Site Management Issues Figure.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ⁷	Milestones & Targets
A58: Establish a funding group to review options to obtain funding for additional activities beyond core functions of the Bailiffs (e.g. work with local Police). Possibilities to investigate include (a) weekend/evening classes in fishing (b) publication of a fishing guide (c) sponsorship by private companies (d) corporate hospitality events (See F5).	Honorary Bailiffs , CEC Services for Communities, WoLCT	a) Establish funding group. b) Identify one new source of funding for additional activities.
A59: To establish links with landowners upstream of Balerno to work together on habitat improvements. (F11).	WoLCT , CEC Forest Service	a) Identify landowners. b) Hold meeting.
A60: Undertake a community archaeology project: (See H14).	CEC Archaeologist , WoLCT, CEC CRS, Volunteers & community groups. Scope for student involvement.	a) Establish steering group. b) Scope work. c) Secure funding. d) Completion of field investigations. e) Publication of results.
A61: Introduce system of monitoring usage of key sections (R9).	CEC CRS, WoLCT Potential to use volunteers.	Report identifying the nature and level of current use of the path.
A62: Conduct a review of improvements required to enhance accessibility of the path (R11).	CEC CRS	Production of report.

3.3.5 Long term

Table 5 lists actions, which whilst important, are not considered to be as high priority as those listed in the preceding tables. They should be implemented by 2020, and earlier if opportunities arise.

Table 5: Actions to be implemented in the long term (by 2020). (The Lead Agency is shown in bold type. Codes in brackets provide a link to the relevant topic paper (s) from which the action originates).

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ¹⁰	Milestones & Targets
Actions relating to policy and planning		
A63: Improve rate of angling returns. Options to investigate include: (a) establishing an on-line record system through the Water of Leith Conservation Trust website; (b) Twitter account (c) "returns" boxes in angling shops and visitor centre (d) Bailiffs keeping a record of catches made during their bank inspections. (See F4)	Honorary Bailiffs, WoLCT	Increase current rate of returns (c. 4 – 5%) by 5% per year.
A64: To assess the scale and impact of mink populations along the Water of Leith (B15).	WoLCT, CEC CRS, CEC City Development Opportunity for volunteer involvement/student project.	Complete survey and assessment of mink populations.
A65: Conduct a review of the name of the linear route e.g. the need to change from walkway to path. (See R17)	CEC CRS, WoLCT	Completion of review

3.3.6 Actions to be implemented as opportunities or relevant circumstances arise

There are a number of actions which, whilst they would achieve improved management of the Water of Leith, are not time-limited in terms of their implementation, or only require implementation under certain circumstances. These actions can be fitted into annual work programmes as opportunities arise. A number of these projects would be suitable for implementation by volunteers or through student projects. These are identified in Table 6.

¹⁰ Organisations are: WoLCT – Water of Leith Conservation Trust; CEC CRS – City of Edinburgh Council Countryside Ranger Service; RIGS – Lothian and Borders RIGS Group of the Edinburgh Geological Society; SEPA – Scottish Environment Protection Agency; WoLAG – Water of Leith Action Group; EWHT – Edinburgh World Heritage Trust; PHRPRS – Pentland Hills Regional Park Ranger Service; HS – Historic Scotland; SNH – Scottish Natural Heritage.

Table 6: Actions to be implemented as opportunities or relevant circumstances arise. (The Lead Agency is shown in bold type. Codes in brackets provide a link to the relevant topic paper (s) from which the action originates).

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ¹¹	Milestones & Targets
Actions linked to policy and planning		
A66: Support restoration programmes for notable buildings e.g. grottos in Craiglockhart and Colinton Dell, St Bernard’s Well, St George’s Well (See H7).	<p>CEC Archaeologist, CEC Museums Service, CEC City Development - Planning, Private groups & organisations (e.g. Dean Village Association), EWHT.</p> <p>(HS may be involved for designated sites/grant applications).</p>	<p>a) Inclusion of St Bernard’s Well in the “Twelve Monuments” project.</p> <p>b) Identification and support for one project.</p>
A67: Ensure that heritage features associated with the docks e.g. bollards, mooring rings, cobbles, are incorporated within development proposals as set out in Leith Docks Development Framework. (See H10)	<p>CEC Development, City CEC Archaeologist, developers</p>	<p>Review of all development proposals against design principles for Leith Docks Development Framework; explicitly those relating to incorporation of heritage features.</p>
A68: Improve public access to historic buildings in public ownership (See H18).	<p>CEC Archaeologist, CEC CRS, private and community groups</p>	<p>a) Facilitate access to St Bernard’s Well at least 6 times per year.</p> <p>b) Facilitate access to one new location e.g. St George’s Well.</p>
A69: Oppose any further culverting and seek to remove existing culverting where possible including on tributary burns (See W1).	<p>CEC Development Planning, City - SEPA</p>	<p>No increase in the number of culverts.</p>

¹¹ Organisations are: WoLCT – Water of Leith Conservation Trust; CEC CRS – City of Edinburgh Council Countryside Ranger Service; RIGS – Lothian and Borders RIGS Group of the Edinburgh Geological Society; SEPA – Scottish Environment Protection Agency; WoLAG – Water of Leith Action Group; EWHT – Edinburgh World Heritage Trust; PHRPRS – Pentland Hills Regional Park Ranger Service; HS – Historic Scotland; SNH – Scottish Natural Heritage.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ¹¹	Milestones & Targets
A70: Support the implementation of objectives in the Scotland River Basin Management Plan prepared by SEPA, particularly with respect to reducing pressure on beds and banks of rivers and bank vegetation. E.g. ensure that development and use does not encroach on areas required by the river for natural processes e.g. near Saughton Prison (subject to the requirements of the flood defence scheme) (See W2).	CEC Development Planning , SEPA City -	a) Undertake survey to identify areas (some Geomorphological data already exists). b) Produce maps showing key areas. c) Use maps to inform planning process. d) Monitor success via WFD process.
A71: Undertake ecological checks prior to all maintenance dredging in the river channel (excludes dredging within docks area, which is consented via a separate process) (See W4).	CEC Structures & Flooding , Private landowners	Maintain register of checks.
A72: Opportunities to upgrade CSOs should be identified and implemented as part of other development initiatives, where possible (See W12).	SEPA , Scottish Water, CEC City Development – Planning	Meeting WFD targets.
A72: All new and novel uses of the river should be fully assessed for their impacts on natural, cultural and amenity use of the river. (See W17)	CEC Development , City WoLCT, SEPA	All new proposals to be checked against planning objectives and the objectives in this plan.
Actions relating to practical projects		
A74: Digitise biodiversity data collected by the Water of Leith Conservation Trust. Digitisation should enable easy sharing of data by relevant bodies (e.g. CEC CRS are using Recorder 6, and data should be shared with Lothian Wildlife Information Centre & NBN Gateway) (See B13).	WoLCT Opportunity for volunteer involvement	All data sets digitised.
A75: Expand the range of information leaflets produced (e.g. a leaflet that focuses on historical and cultural aspects and how these relate to the development of the City of Edinburgh such as the parallel development of paper mills with printing presses in the City) (See B5 , H11 , E15).	WoLCT, Archaeologist, museums , CEC service , National Galleries of Scotland, EWHT.	Production of 2 leaflets during lifespan of this plan.
A76: Provide free path maps to B&B and hotels near the route. (R12 , E10).	WoLCT , VisitScotland Opportunity for volunteer involvement	Distribution of 100 maps to tourism businesses adjacent to the river.
A77: Promote a project to explore the impact of bullhead and/or grayling on trout populations (requires the development of a brief, & possibly seeking funding) (See F3).	Honorary Bailiffs , Opportunity for student project	Understanding of relationship between bullheads and trout in the Water of Leith.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ¹¹	Milestones & Targets
A78: Replacement of existing signs that do not fit the “brown waterwheel” brand ^{12,13} (See R14 , E17).	CEC CRS , WoLCT	Any new or replacement signs along the route should bear the “brown waterwheel”. This does not mean the wholesale replacement of all existing signs. All new signs that are introduced (either in new locations or as replacements for existing signs), then these should be of a consistent style. The historic cast iron signs should be maintained.
A79: Analyse data concerning use of the Path that is collected by WoLCT volunteers. (M8 , R10)	WoLCT Opportunity for student project.	Production of report detailing uses.
A80: Identify potential new access points and circular routes (including upgrading existing routes such as Poet’s Glen) to provide links between different footpaths. (R6 , R7 , R8)	WoLCT, CEC City Development, CRS, PHRPS	a) Identification of 2 new access points. b) Identification and publication of one route. c) Upgrade Poet’s Glen route.
A81: Restrict approval for increased lighting on the path to avoid adverse impacts on bat feeding and to maintain rural character of parts of path (to be informed by landscape character assessment (see Action L1) and ecological management plan (see Action B1) (See R13).	CEC City Development, CRS, WoLCT	No increase in lit areas in a) areas important for bat feeding; b) areas identified as of rural character in landscape character assessment.

¹² This does not mean the wholesale replacement of all existing signs. All new signs that are introduced (either in new locations or as replacements for existing signs), should be of a consistent style. The historic cast iron signs should be maintained.

¹³ Signage in Colinton & Craiglockhart Dell is a different style to that used along the path (wood signs), blue waymarker signs are used at other locations e.g. near Sandport Place. As a minimum, the Water of Leith logo could be added to these existing signs to retain continuity of the brand. A good example of this is the use of the national cycle route markers on existing signs.

Action (Codes in brackets indicate source of action)	Organisations involved (lead body shown in bold) ¹¹	Milestones & Targets
A82: Create a unified “feel” for infrastructure linked to the Water of Leith (R14).	CEC CRS	a) Removal of signs that do not fit with the “brown waterwheel” logo. b) All seats within sight of each other to be in the same style. N.B. refers to new and replacement features only; does not require the replacement of existing furniture that remains in good condition and fit for purpose.
A83: Establish a co-ordinated framework for the management of invasive species (part of LBAP) (B12).	CEC Development City	a) Formation of steering group. b) Development of strategy.

3.4 Implementation and Monitoring

This plan will be implemented over the next ten years (2010 – 2020) by the Water of Leith Action Group Members, with assistance from other agencies as necessary. Responsibility for individual actions within the plan has been assigned to specific agencies, but it is anticipated that many of the actions will require collaborative working.

The Action Group members will agree which actions are to be implemented each year. Monitoring success against each individual action will be the responsibility of the named lead organisations. Progress will be reported annually, either at one of the meetings of the Water of Leith Action Group, or in a wider stakeholder meeting.

A master list of progress against each action will be maintained by the Water of Leith Conservation Trust.