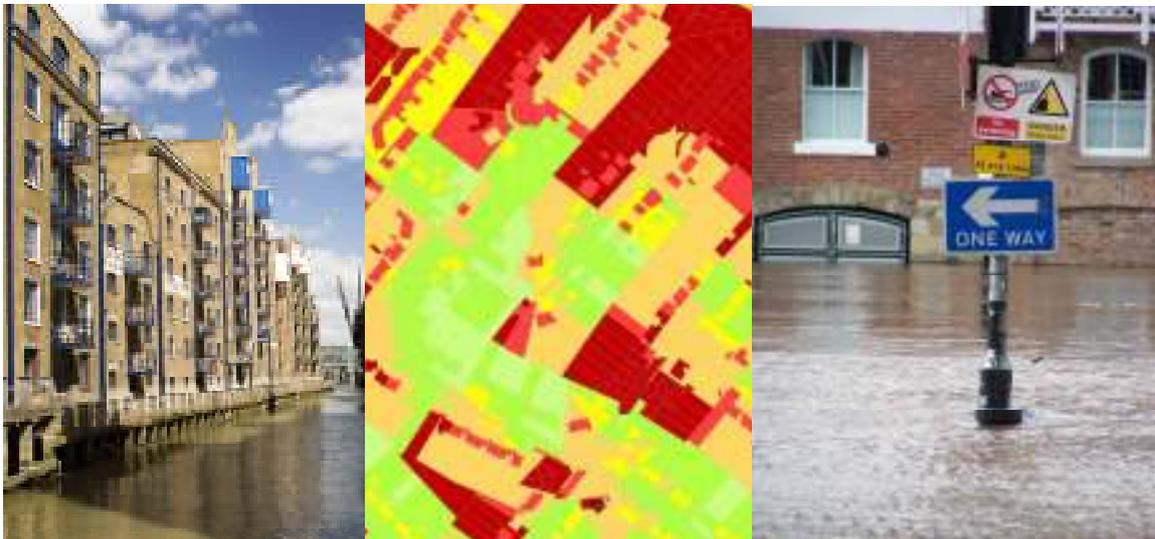




**Delivery of Surface Water Management Plans to
support implementation of the Flood Risk
Management (Scotland) Act**

19th March 2013

<http://www.ciwem.org/knowledge-networks/groups/urban-drainage.aspx>





Delivery of Surface Water Management Plans to support implementation of the Flood Risk Management (Scotland) Act

Barcelo Stirling Highland Hotel, Stirling– 19th March 2013

TECHNICAL ENQUIRIES

All technical enquiries and suggestions relating to this publication should be addressed to:

Technical Queries CIWEM Website

<http://www.ciwem.org/knowledge-networks/groups/urban-drainage.aspx>

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This publication has been checked by the editor members of the CIWEM (Scotland Branch) and CIWEM UDG Committee for major errors. However, this publication does not necessarily represent the views of either Committee. It is issued for guidance in good faith but without accepting responsibility for its content.

ACKNOWLEDGEMENTS

This summary output was edited by Jamie Margetts (Clear), Elliot Gill (CH2M Hill) and Kieran Downey (Scottish Water). It is based on the outputs of the workshop on the 19th March, Stirling, and full list of attendees is given in Section 4.0 of this output.

AMENDMENTS

Reference	Details	Date
V01-001	Summary Output from Workshop	March 2014



Delivery of Surface Water Management Plans to support implementation of the Flood Risk Management (Scotland) Act 2009

Barcelo Stirling Highland Hotel, Stirling– 19th March 2013

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1.0 Introduction

Over 50 delegates with an interest in urban drainage and the Flood Risk Management (Scotland) Act attended the joint CIWEM (Scotland Branch) and CIWEM UDG “Delivery of Surface Water Management Plans to support implementation of the Flood Risk Management (Scotland) Act” Workshop in Stirling. This was a follow on workshop from the “Urban Drainage Integrated Modelling” workshop held in 2012. The workshop comprised of:

- A number of presentations identifying how Surface Water Management Plans (SWMPs) are being implemented in relation to the Flood Risk Management (Scotland) Act. These highlighted on-going successful case studies and also challenges and lessons learnt from across the UK;
- A series of active breakout sessions to identify
 - What opportunities and challenges exist in implementing SWMPs in Scotland in relation to the Act;
 - Solutions to maximise these opportunities and overcome challenges to ensure successful implementation of SWMPs.

This report summarises the outputs from the workshop so that these can be considered as part of any further action plans by Scottish Water, Local Authorities, the regulators, or Government. Many of the outputs align with those identified at the 2012 Workshop, focusing on integrated modelling; the report of which can be found at <http://www.ciwem.org/knowledge-networks/groups/urban-drainage/events/past-events--presentations.aspx>.



Initial feedback indicated that the series of workshops in 2012-13 has helped advance knowledge and raise awareness throughout those tasked with implementing the Act. It was agreed that a follow up workshop would be of benefit to practitioners. No date has been set for this, but early 2014 is an appropriate time given the current on-going work and commitments in relation to the Act.

It was particularly encouraging that a broad range of stakeholders from across the industry attended the workshop. Attendees ranged from Local Government, the regulators, Scottish Water and various consultants & specialist software suppliers. This allowed the full spectrum of challenges to be understood, and consideration given to all stakeholders needs in the development of solutions.

Presentations from the day are contained in Appendix 1, and the full report and presentations is available on the CIWEM website.



2.0 Aims and Objectives of the Day

Delivery of the Flood Risk Management (Scotland) Act and complying with Scottish Advisory and Implementation Forum for Flooding (SAIFF) guidance will require a number of different approaches to understanding, predicting and interpreting flood risk. In 2012, the inaugural workshop in this series outlined initial attempts at integrated modelling in Scotland and some of the challenges that will be faced by the first wave of such studies. The outputs are available on the CIWEM website at: <http://www.ciwem.org/knowledge-networks/groups/urban-drainage/events/past-events--presentations.aspx>

This second workshop was aimed at further raising awareness of delivery of the Flood Risk Management (Scotland) Act and complying with Scottish Advisory and Implementation Forum for Flooding (SAIFF) guidance; and assisting with building capacity in the Local Authorities and Partner organisations. It aimed to focus on how SWMPs form an integral part of meeting the requirements of the Act, and outline what is required and expected as part of a Scottish SWMP. It aimed to outline experiences and lessons learnt from SWMP studies across the UK in terms of following guidance, stakeholder engagement, capacity building and technical application.

In summary, the main aims of the day were:

1. Raise awareness of Flood Risk Management (Scotland) Act 2009 Surface Water Management Plans and new SAIFF produced guidance on the production of SWMPs;
2. Showcase early SWMPs and their form in relation to the Act;
3. Understand current approaches to SWMPs across the UK;
4. Identify the gaps in knowledge or other needs that affect the production and implementation of SWMPs;
5. Identify the opportunities to enhance SWMP current best practice;
6. Understand capacity building needs for the roll out of SWMPs across Scotland;
7. Identify the role of CIWEM in helping promote understanding and application of SWMPs to practitioners in Scotland, including software developments, practical support and any obvious further research needs;
8. Transfer knowledge from the workshop to assist CIWEM or other bodies (R&D, software developers etc.) to implement the identified outputs.



3.0 Agenda for the Day

Time	Item	Lead
09:30 – 09:35	Introduction to the Workshop	Kieran Downey (Scottish Water & CIWEM UDG)
09:35 - 10:05	Scotland Surface Water Management Plan requirements, guidance and programme	Kirsten Thorburn (SEPA)
10:05 – 10:50	Surface Water Management Plans – examples and lessons learnt from across the UK	Elliot Gill (CH2M HILL & CIWEM UDG)
10:50 – 10:55	Short Comfort Break	
	Breakout Group Sessions	
10:55 – 11:35	Brainstorm of issues and challenges	Jamie Margetts (Clear& CIWEM UDG)
11:35 – 11:50	Tea / Coffee Break	
11:50 – 12.30	Solution/ Action identification (selected issues & challenges)	Jamie Margetts (Clear& CIWEM UDG)
12:30 – 12:55	Feedback	All
12:55 – 13:00	Close	Kieran Downey (SW & CIWEM UDG)



4.0 List of Attendees

The following delegates attended the day. CIWEM thanks everyone for their contributions during the day making it a successful event.

First Name	Surname	Organisation
Kieran	Downey	Scottish Water & CIWEM UDG
Jamie	Margetts	Clear & CIWEM UDG
Elliot	Gill	Ch2M Hill & CIWEM UDG
Kirsten	Thorburn	SEPA
Alyson	Barr	Scottish Water
David	Bassett	JBA Consulting
Frank	Bradley	SEPA
Wendy	Campbell	SEPA
Alistair	Cargill	SEPA
John	Cassels	Argyll & Bute Council
Alexander	Coull	East Lothian Council
Jeremy	Cox	C2MHill
Joanna	Cubbage	Aberdeenshire Council
Stuart	Cullen	Clackmannanshire Council
Iain	Diamond	Stirling Council
Peter	Dickson	Perth & Kinross Council
Harry	Doy	East Dunbartonshire Council
John	Drake	Halcrow Group
Claire	Elliott	Stirling Council
Ronnie	Falconer	Jacobs
Alayne	Finlay	Stirling Council
Ross	Gibson	D&G Council
Rebecca	Green	Atkins
William	Hamilton	North Lanarkshire Council
Rick	Haynes	SEPA
Graeme	Hedger	West Lothian Council
Mahesh	Iyer	MWH



Sarah	Jones	Mouchel
Raj	Kumar	East Dunbartonshire Council
Ian	Lang	MWH
Philip	Leiper	Aberdeenshire Council
James	Levesconte	Halcrow Group
Dawn	Lochhead	Scottish Water
Ian	Macadam	Clear Environmental Consultants Ltd
Arthur	McCulloch	Argyll & Bute Council
Gaye	McKay	MWH
Iain	McLachlan	Clear Environmental Consultants Ltd
Neil	McLean	Creative Drainage
Annelies	McMillan	Scottish Water
Gordon	McOmish	The City of Edinburgh Council
Craig	McQueen	Perth & Kinross Council
Richard	Meeson	Angus Council Roads Division
David	Miller	North Lanarkshire Council
Razia	Mohammed	Network Rail
Gregor	Muirhead	SLR Consulting
Alan	Murray	Clackmannanshire Council
Chris	Newlands	Clear Environmental Consultants Ltd
Len	Padget	East Ayrshire Council Roads
Rebecca	Passmore	Arcus Consulting
Gareth	Pender	Heriot Watt University
Sally	Phillips	Perth & Kinross Council
Fiona	Pollock	Atkins
Brian	Raeburn	Falkirk Council
Andrew	Reid	Dundee CC
Gordon	Reid	Scottish Water
Andrew	Ross	Scottish Canals
Walter	Scott	Angus Council Roads Division
Duncan	Sharp	The Highland Council
Ralph	Singleton	Aberdeenshire Council



Sharon	Smith	Falkirk Council
Zoe	Smith	The Highland Council
Susanne	Steer	Scottish Water
Russell	Stewart	Perth & Kinross Council
Laura	Telford	Glasgow City Council
Brian	Templeton	D&G Council
Lucy	Van Der Ven	The City of Edinburgh Council
Susan	Veitch	Perth & Kinross Council
David	Wailly	Scottish Water
Andrew	Walker	Innovyze
Gopal	Warayanan	Dundee CC
Lee	Watson	Aberdeenshire Council
Les	Watson	SEPA
Grant	Whyte	Argyll & Bute Council
Becky	Wilson	SEPA
David	Winter	Scottish Water
Janice	Wotherspoon	Angus Council Roads Division
Ian	Young	Stirling Council
Neil	Young	Angus Council Roads Division



5.0 Presentations

Presentations from the day are contained in Appendix 1, and the full report and presentations is available on the CIWEM website.

6.0 Aim of Each Breakout Session

The aim of **Breakout Session 1** was to brainstorm the opportunities and challenges facing the delivery of SWMP studies. In order to do this, the delegates were split into eight groups, and each group identified opportunities and challenges across the following broad topics:

- Data, Technology & Knowledge
- Skills and Resources (including Experience and Expertise)
- Stakeholder Communication and Engagement
- Funding & Legislation
- Guidance

The delegates were asked to identify a timescale at which an opportunity or challenge may arise. A total of 156 responses were obtained from the 8 groups.

Breakout Session 2 was intended to develop solutions and timescales to address some of the challenges, or make the most of opportunities, identified in Session 1. Each of the eight groups was set a question based on initial ordering of the key issues identified in Session 1. An outline document for each solution was produced containing:

- Output / Action – what needs to be undertaken to address challenges;
- Next steps – short term actions to mitigate challenge;
- Data Needs to implement change;
- Lead Stakeholder;
- Likely effort and cost implications.

It is intended that the solutions are made freely available to assist or influence future co-ordination, delivery and enhancement of SWMPs.

7.0 Summary of Breakout Session 1 – Identification of Challenges and Opportunities in the Delivery of SWMPs

Appendix 2 highlights the main themes and the individual comments relating to challenges identified by the groups within each of the six topics. Each row in the various tables represents a 'Post-it' comment from a delegate. Figure 1 below summarises the number of responses for each of the topic areas and whether these were identified as a challenge or opportunity to SWMP delivery.

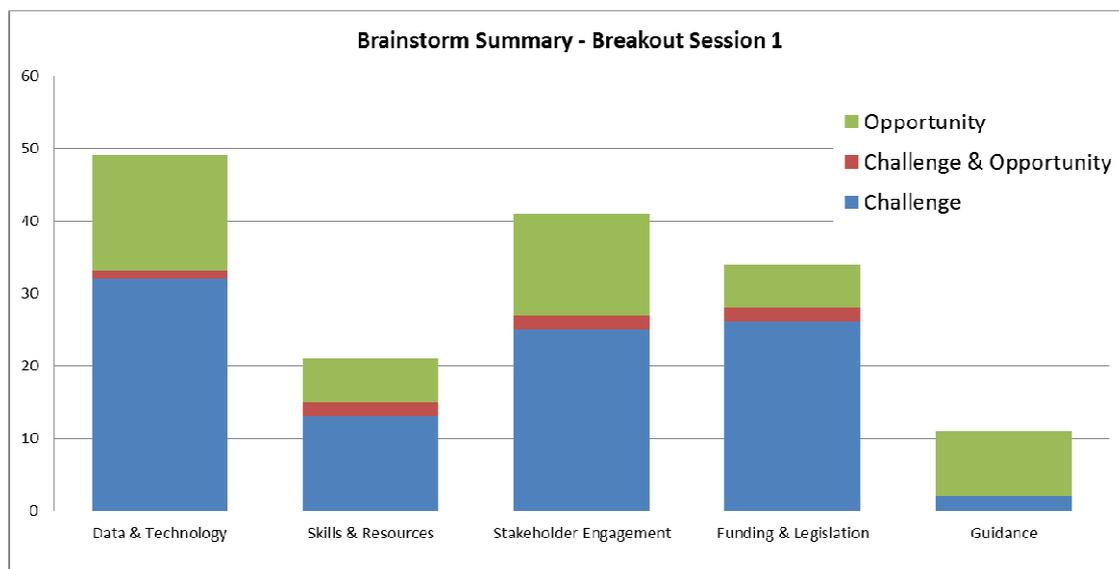


Figure 1 – Summary of responses from Breakout Session 1

It is clear from these that there was a varied level of response, with the most responses identified for the ‘data, technology and knowledge’, ‘stakeholder communication and engagement’ and ‘funding and legislation’ topics. Funding and legislation was identified as the topic with the highest proportion of challenges (76%), and all other topics except guidance identified more challenges than opportunities (ranging between 61-65%). The responses for guidance were more optimistic, with 82% of the responses being identified as opportunities.

The responses varied significantly in terms of timescale of implementation (Figure 2)

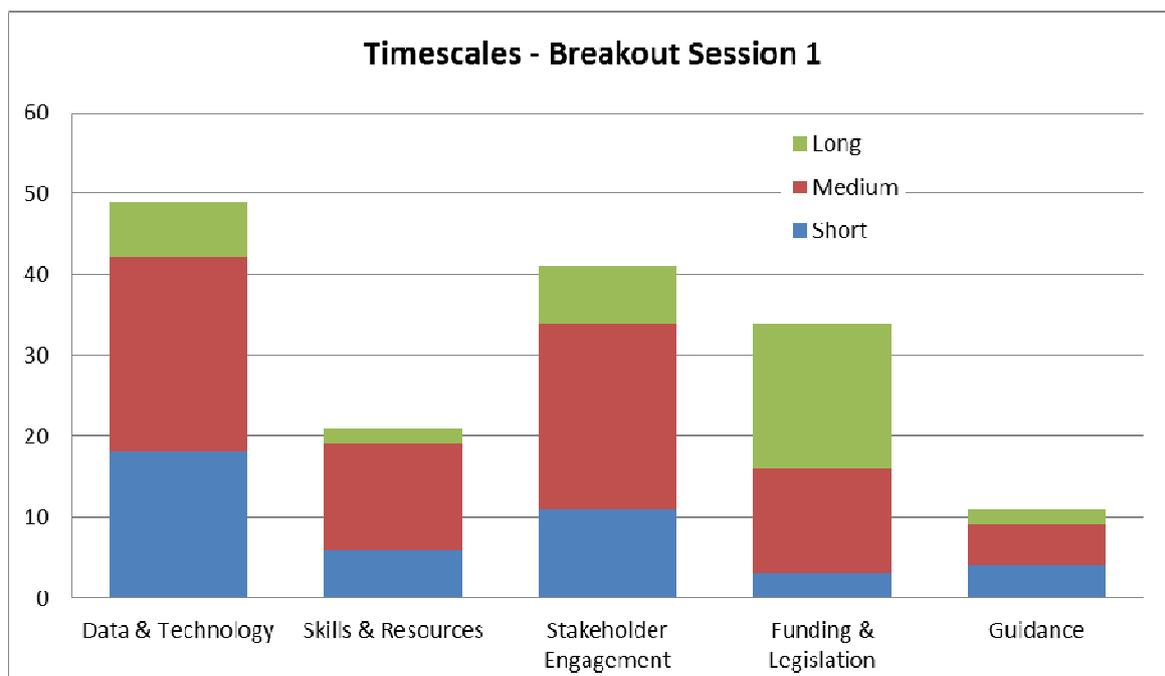


Figure 2 – Timescales of implementation from responses in Breakout Session 1



All topics other than funding and legislation are deemed to predominantly have opportunities or challenges that will present themselves in the short or medium term. The funding and legislative topic was deemed to have the highest proportion of challenges, most of which could not be resolved with medium or long term course of action, which is not surprising given the nature of this field.

The skills and expertise, and guidance topics had the lowest number of responses. However, this does not mean that they are not important. A detailed review of the responses indicates that these were rarely broken down into specific sub-topics, and a general comment was made. For example, 'lack of skills and resources' was made multiple times and covers a wide range of sub-issues. Likewise, 'the need for concise guidance' highlights a significant need, but one which also covers many sub-issues.

The range of comments for data & technology, stakeholder engagement and funding & legislation was much higher, reflecting the predominance of specific issues. The summary below presents a high level summary of the key opportunities and challenges within each topic, based on the detailed responses in Appendix 2.

Data, Technology & Knowledge

Challenge

The gathering of relevant historical data in a consistent, confident and high quality manner; and the use of standard formats and protocols was raised as a significant challenge affecting studies at present. Modelling technology, hardware and software issues was also raised as a concern, alongside specific issues relating to available fluvial and pluvial flood maps, uncertainty, rainfall predictions, exceedance and solution costs.

Opportunity

There is the opportunity to learn from lessons elsewhere (England) and not make the same mistakes; to set up standard protocols for data collection and data sharing to ensure consistency in the gathering of historical information and modelling approaches. The need to promote and understand SUDs design and implementation was highlighted.

Skills and Resources

Challenge

A lack of resources and continuity of resources in the LAs and SEPA, both technically and to undertake stakeholder and public engagement was identified as the main challenge; with concerns also expressed relating to the timescale of delivery of the SWMPs and how this relates to the process of up-skilling, training and the funding and management buy-in to these initiatives.

Opportunity

The sharing of trained staff, expertise, systems, data and technology across LAs and other stakeholders was seen as the main opportunity, alongside identifying quick short term wins to demonstrate progress whilst any up-skilling may be being undertaken in parallel.



Stakeholder Communication and Engagement

Challenge

Managing public expectations and perception, the direction this should take, educating the public and stakeholders, and the pressures to deliver in the short term from the public and some stakeholders (especially senior members and politicians) was seen as the main challenge. Obtaining buy-in and sign-off from the different stakeholders and tiers of responsibility was also a significant challenge.

Opportunity

Raising public awareness and involving them at the start of the SWMP process was deemed a significant opportunity; alongside educating them on the benefits of SUDs and self-responsibility in terms of SW management. Liaison with developers and planners at the start of projects and the identification of quick wins across stakeholders was also seen as major benefits.

Funding & Legislation

Challenge

Alignment of different stakeholder funding cycles, the funding certainty in the long term or for matched, adopted or maintenance schemes, and the political and economic pressures to deliver short term benefits were seen as the major funding challenges. The legislative timescales and delivery expectations, lack of policy definition and direction, conflicts between different stakeholders (planners and highways) due to different objectives, and a lack of understanding of legal responsibilities amongst stakeholders were also issues.

Opportunity

Influencing the planning cycle and the use of incentives to promote surface water management were seen as the main opportunities, alongside aligning funding and identifying joint funding opportunities.

Guidance

Challenge

Few challenges were seen in this respect, other than confirming responsibilities on various issues.

Opportunity

Production of guidance, at the start of the SWMP process, was seen as an across the board opportunity, ranging from standardising templates and protocols, to specific elements such as SUDs design.

All detailed responses are provided in Appendix 2.



8.0 Summary of Session 2 – Development of solutions to address the challenges

Solutions to address the challenges identified were developed for 8 specific issues identified from the detailed responses obtained in Session 1. Potential lead organisations were identified who could further develop the actions required.

The issues and questions which were posed were:

- 1) There are different interest drivers for Scottish Members and Politicians and other SWMP stakeholders. Clarity and a joined up approach and message is imperative. Focused actions plans will help resolve this concern.
- 2) Improvement of flood incident data capture is required to increase the robustness of technical studies and solutions, and to better focus stakeholder engagement initiatives.
- 3) The lack of resource capacity and the need to build this to meet SWMP objectives is a significant concern. A nationwide programme of training, up-skilling and professional development is required.
- 4) How do we communicate flood risk to the public and prepare them in areas of risk?
- 5) There is a need to align finances and resources to efficiently deliver SWMP studies and programmes.
- 6) How do we broker agreements for implementation of initiatives across partners?
- 7) How do we promote and undertake the sharing of data to maximise benefits and insight or understanding within the SWMPs?
- 8) Successful SWMP delivery, and communication of risk to the community, requires robust consistent guidance to ensure best approaches are followed and all LAs deliver to a similar standard.

The outputs from each of the groups is shown below.



Solution to Gap Theme 1	There are different interest drivers for Scottish Members and Politicians and other SWMP stakeholders. Clarity and a joined up approach and message is imperative. Focused actions plans will help resolve this concern.
Gap Summary – key gaps identified	Concern was expressed relating to the different expectations and commitments made by interested parties in SMP delivery. This is also aligns to different funding commitments. A joined up message is not being presented top down; and often commitments are made that are not achievable or require resources / funding to be moved from other commitments.
Output / Action	<ul style="list-style-type: none"> • Tiered education and communication: National level flooding summits (Executives and Directors); SEPA led regional flooding events (HoS); Elected member workshops (LPD) • Action plans presenting to SMs and politicians what can happen (SWMP outputs, risks & solutions). Location specific and identify joint funding opportunities. Key Message – if not in plan – no funding. • Educate based on case studies from elsewhere • Identify key points in timescale for effort and focus in getting the message across and making decisions. This allows key technical work and evidence base development to undertaken in advance to ensure robustness.
Next Steps	<ul style="list-style-type: none"> • Co-ordinate standardised plans to communicate at all tiers. • Strategy of education and managing expectations at all levels
Data Needs	<ul style="list-style-type: none"> • Communications plans focused at Scottish Members and Politicians. Must be regional based, with SEPA and LAs to lead • Shared information amongst LPDS; need to allow access to information
Lead	Scottish Government and SEPA, supported at regional level by LPDs
Effort and estimated costs	Input will be required by all stakeholders, and behaviour changes at all levels. This could be implemented in the short term, but is likely to not be fully embedded until the medium term. Cost implications are relatively low, as the key changes relate to behaviour and managing of key messages both up and down the government, regulator and delivery hierarchy.



Solution to Gap Theme 2	Improvement of flood incident data capture is required to increase the robustness of technical studies and solutions, and to better focus stakeholder engagement initiatives.
Gap Summary – key gaps identified	Issues exist with the capture of flood incident data due to differences in reporting requirements across LAs and at a national and local level, the need to collect data in short time scales and out of hours, issues with the prioritisation of incidents as they occur (call triage), intense high volume data collection in a short period of time often leads to reduced quality, multiple collectors and users of the data.
Output / Action	<ul style="list-style-type: none"> • National standard for flood incident data collection addressing issues such as: BMS, filtering of data, prioritisation, administration and management of resources and staff during incident, data collation, data formats, data storage and indexing, reporting
Next Steps	<ul style="list-style-type: none"> • Revive SAIFF group to develop these standards • Improved procedures (to collect data on initial contact) and training for call centre staff • Improved templates for on the ground data collection by response teams • Process for consistency across all partners (SW, LAs, SEPA, cross border emergency response)
Data Needs	<ul style="list-style-type: none"> • Buy-in from senior management, politicians and all stakeholders • Templates and standards for data collection needs • Training of response and call centre staff
Lead	SAIFF Group and SEPA
Effort and estimated costs	Would involve significant short term effort and cost to co-ordinate and derive standards and training programmes. The long terms costs would be negligible and would lead to efficiencies and savings in future SWMPs and flooding related initiatives.



Solution to Gap Theme 3	The lack of resource capacity and the need to build this to meet SWMP objectives is a significant concern. A nationwide programme of training, up-skilling and professional development is required.
Gap Summary – key gaps identified	The main concerns with resource capacity relate the technical aspects of predicting flooding and developing solutions (modelling, GIS, statistics, feasibility and cost benefit). Concern was also raised relating to the understanding of adoption, operation and maintenance of SUDs and surface water management measures within all stakeholders (both policy and technical).
Output / Action	<ul style="list-style-type: none"> • Assess exact extent of current skill gap (including an estimate of numbers of skilled resource required to deliver commitments). Develop nationwide skills matrix to identify regional gaps to promote sharing of resources and training • Understand training needs across all stakeholders and develop matrix for need or provision of training • Develop private sector or academic partnerships for knowledge transfer to SEPA and LAs • Develop nationwide capacity building plan
Next Steps	<ul style="list-style-type: none"> • Short term – develop skills matrix across all stakeholders. Develop standard templates to allow assessment of skills; • Short term – develop centralised database of skills (strengths and weaknesses) and resource sharing opportunities; • medium term – identify training requirements and explore funding arrangements, partnerships
Data Needs	<ul style="list-style-type: none"> • Centralised process of collecting capacity data from all stakeholders. Development of skills matrix would be accessible to all to allow understanding of any obvious shortcomings to promote immediate training, or where resource sharing could be explored.
Lead	Scottish Government, supported by training bodies and CIWEM
Effort and estimated costs	Would involve some, but not significant, short term effort and cost to co-ordinate and understand resource capacity and gaps. This would enable resource sharing and may offer immediate benefits when strengths and weaknesses are understood. In the medium and long term, significant investment in training is required to ensure resource capacity is available to deliver and maintain SWMP commitments. In the long term re-alignment of current industry / academic investment may support this process.



Solution to Gap Theme 4	There is a need to ensure that the community is prepared for flood risk, and a pro-active approach to engagement, communication and ensuring they understand risk is required.
Gap Summary – key gaps identified	<p>How do we communicate flood risk to the public and prepare them in areas of risk? The structure is not in place to ensure risk is communicated adequately so that communities are prepared. This structural issue is a significant gap.</p> <p>We need to: 1) Prepare communities better and improve understanding and perception of ‘at risk’ 2) collaborate with insurers before flooding occurs 3) prepare to show detail of data to public (transparency) 4) Encourage community to set up residents action groups 5) adequate letter of comfort for residents 6) local education with community (evening meetings, road shows and school visits)</p>
Output / Action	<ul style="list-style-type: none"> • Brief / train LA staff and elected members (reviewing phone calls) • Agree approach with Institute of Insurers & SEPA • Prepare informative data for letter of comfort • LAs to arrange road shows / school visits; encouraging communities to set up action groups, and community meetings
Next Steps	<ul style="list-style-type: none"> • Talk to community • Talk to insurers • Make sure people are prepared; • Welcome publish of data and request feedback on hazard maps
Data Needs	<ul style="list-style-type: none"> • Alternative communication to internet (not all have access). Encourage to visit LA office
Lead	Local Authorities
Effort and estimated costs	LAs have dedicated flood teams. 2/3 FTE (people) £200-£500k per LA.



Solution to Gap Theme 5	There is a need to align finances and resources to efficiently deliver SWMP studies and programmes
Gap Summary – key gaps identified	The roll-out of programmes of WMPs and other integrated flooding studies has put a strain on resources. There is a need to ensure resourcing is matched to spending and funding requirements so that up-skilling opportunities and efficient use of existing resources can be maximised.
Output / Action	<ul style="list-style-type: none"> • A nationwide initiative to understand resource needs and deliverable programmes • A nationwide initiative to align interventions and solution programmes across river, coastal, pluvial, sewer and CSOs • A nationwide joint funding approach to these studies, and a combined procurement approach across stakeholders • A nationwide initiative to share resources, staff, software and knowledge
Next Steps	<ul style="list-style-type: none"> • Co-ordinate a local and national resource understanding initiative – this should start locally in the short term • Identification of all stakeholders, skill availability, resource needs to deliver, national delivery KPIs • Scottish Government to drive KPI, funding and resource initiatives from top down
Data Needs	<ul style="list-style-type: none"> • Identification of all stakeholders (National Government, SAIF, Scottish Water, SEPA, LAs, Transport Scotland, Network Rail, Scottish Water, WICS, National Parks). • High level PVAs to prioritise funding needs • Nationwide skills matrix
Lead	Scottish Government, supported by training bodies, CIWEM and academia
Effort and estimated costs	This initiative could be kick started immediately to realise short term benefits in terms of understanding resource availability and matching these to where funding is currently allocated.



Solution to Gap Theme 6	How do we broker agreements for implementation of initiatives across partners?
Gap Summary – key gaps identified	Brokering agreements across partner stakeholders has been difficult in some areas due to issues with defining and agreeing areas of responsibility, and understanding each partners confirmed goals and objectives.
Output / Action	<ul style="list-style-type: none"> • A process to understand the specific cost benefit to all partners and beneficiaries of any proposed action from the SWMP • A process to specify all stakeholders, their available resources and skills, funding streams, FRM objectives, areas of responsibility (i.e. capital or maintenance) • An understanding of the efficiencies / increased benefits to all partners of delivering together rather than alone
Next Steps	<ul style="list-style-type: none"> • Guidance to ensure the SWMP study is directed from outset to achieving partner goals • Guidance to produce ‘an unbiased SWMP with the best solution for the community’ • Development of tools to identify cost benefit of solutions at different stakeholder levels
Data Needs	<ul style="list-style-type: none"> • Technical solutions to all stakeholder cost benefits to be understood • SWMP Guidance promoting this approach and driving consistency in the way costs and benefits for the different stakeholders can be realised • Understanding of all resources across partners so skills can be shared
Lead	Local Authorities for SWMP, individual partners for the solutions
Effort and estimated costs	This initiative could be kick started immediately to realise short term benefits in terms of understanding resource availability and matching these to where funding is currently allocated.



Solution to Gap Theme 7	How do we promote and undertake the sharing of data to maximise benefits and insight or understanding within the SWMPs?
Gap Summary – key gaps identified	Data is being collected in various formats and to differing standards on a local levels. This has not promoted sharing or use of the data on a local level or on a nation level. This can result in additional costs in the SWMPs either trying to align data sets, or on occasion, recollecting data.
Output / Action	<ul style="list-style-type: none"> • There is a need for a common data platform that can be accessed by all, both for local SWMPs and nationally • Establishing of protocols for data formats (historical flooding, topographical, flow measuring etc.)
Next Steps	<ul style="list-style-type: none"> • Understand technical challenges (large number of users, national access, hosting) • Understand implementation barriers (licenses, access rights) • Establish protocols for data collection, standardised formats and templates • Understand GIS capabilities and platforms – any protocol needs to promote geospatial data
Data Needs	<ul style="list-style-type: none"> • Examples of high quality data collection approaches to base standardised formats and templates • Understanding of data issues that affect architecture of common platform (size of data, frequency of updates etc.) • Understanding of training needs to a) collect standardised data b) use a new platform for sharing data
Lead	Nationally (SEPA or Scottish Water) with input from LAs that have ‘best in class’ data collection approaches on which to base standardised formats
Effort and estimated costs	This would have a significant cost implication in the short term, both centrally to establish protocols and platform, and locally to change data collection techniques, train staff, and use the platform. This exact cost will vary based on a) the available ‘best in class’ examples to standardise data collection b) the ability to use existing national platforms for sharing the data. This will however, reduce costs in the medium to long term due to the benefits associated with sharing data at all levels.



Solution to Gap Theme 8	Successful SWMP delivery, and communication of risk to the community, requires robust consistent guidance to ensure best approaches are followed and all LAs deliver to a similar standard
Gap Summary – key gaps identified	The current guidance that is available is very disparate and not fully integrated across all aspects of a SWMP. There is room for improved guidance that clearly demonstrates the technical approaches that could be undertaken and the outputs that are required.
Output / Action	<ul style="list-style-type: none"> • Production of high quality SWMP guidance with real case studies and which sets consistent standards across all studies
Next Steps	<ul style="list-style-type: none"> • Understand the gaps in the existing SWMP guidance • Identify suitable case studies to demonstrate aspects of the guidance • Review first tranche of studies to understand inconsistencies and blockers to ensure guidance is updated • Trial a case study and review guidance further • Educate and manage expectations of stakeholders in outputs
Data Needs	<ul style="list-style-type: none"> • Expand available guidance (e.g. sewers for Scotland, SWMP Guidance, modelling guides) • Existing examples and case studies of best practice (both technical approaches and output / deliverable formats) • Develop a platform and standard protocols for data collection and sharing
Lead	Scottish Government / WICS / SAIFF
Effort and estimated costs	Low cost and effort. Could be funded through first SWMP studies, or from further grants (EU?).



9.0 Next Steps

This report summarises the various ideas and priorities identified by the delegates in relation to the challenges and issues affecting the roll out and implementation of SWMPs as part of FRM (Scotland) Act. The next steps are to:

- Gain feedback and comments to this summary from the workshop delegates;
- Make outputs publically available through CIWEM website; and
- Progress ideas and identify delivery models and owners for solutions at a future workshop, should the stakeholders consider this beneficial.

The challenges and potential solutions need to be taken up by different stakeholders at different levels (Scottish Government, Scottish Water, Local Authorities, SEPA, Regulators, Academia, CIWEM etc.) so that these can be progressed further. Through production of this document, the solutions are made freely available to assist or influence future implementation of SWMPs as part of FRM (Scotland) Act, and can be progressed by any interested party.

It was determined that a follow up workshop would be of benefit to practitioners. No date has been set for this, but early 2014 appears an appropriate time given the current on-going work and commitments in relation to the Act.



Appendix

Appendix 1 – Presentations

See attached documents:

Appendix 1 - 1-Introduction SWMP Workshop 130319 v01 - Kieran Downey.pdf

Appendix 1 - 2-The FRM Act and Surface Water Management Planning requirements - Kirsten Thornburn.pdf

Appendix 1 - 3-Scotland SWMP Elliot 19March2013 - Elliot Gill.pdf



Appendix 2 – Summary Outputs from Breakout Session 1

Opportunities and challenges Identified in Implementation of SWMPs in Scotland – Data, Technology & Knowledge

Comment - Data, Technology & Knowledge	Challenge / Opportunity	Timescale
Data management	Challenge	Short
Data sharing protocols	Opportunity	Short
Learn from mistakes down south	Opportunity	Short
GIS – range of software	Challenge	Short
Capturing relevant data	Challenge	Short
Expertise to use data	Challenge	Medium
Integrated modelling – consistency	Opportunity	Medium
Data protection / Intellectual property issues	Challenge	long
Limited knowledge of SWMP approaches	Challenge	Short
Some areas with good local experience of data collection	Opportunity	Short
Floods register spread sheet not maintained on an event basis	Challenge	Short
Current flood maps don't take account of flood defences already in place	Challenge	Short and medium
Gathering of historical information	Challenge and opportunity	Short and medium
Lack of knowledge and skill set at LA	Challenge	Short to medium
Poor quality of existing data	Challenge	Short to medium
Lack of tools to provide transparent high confidence evidence	Challenge	Short to medium
Quick identification of opportunistic schemes ahead of published plan	Opportunity	Short to medium
Technology to encourage redevelopment (separation, retrospective SUDs etc.)	Opportunity	Medium
Robust case to seek funding (optioneering)	Opportunity	Long
Understanding what data is available	Challenge	Short
Understanding what data needs to be collected	Challenge	Short
Relevance of data to schemes	Challenge	Medium
Confidence in cost of implementation of solutions	Challenge	Medium
Available modelling technology	Challenge	Medium



Comment - Data, Technology & Knowledge	Challenge / Opportunity	Timescale
Hardware, processing requirements, simulation times, storage etc.	Challenge	Medium to long
Rainfall prediction uncertainties	Challenge	Short to medium
Lack of historical data and programmes to fully record and monitor extent and effect of events	Challenge	Short to medium
Data gathering and sharing protocols	Opportunity	Short to medium
Licencing Met Office and Radar Data	Opportunity	Short to medium
Research opportunities to deliver evidence base for SUDs features and implementation	Opportunity	Medium
Modelling for exceedance	Challenge	Short
Historical data records – need standardising and maintaining from now	Challenge	Short
Understanding strategic and local issues and different levels of solution	Challenge	Medium
Gaps in pluvial hazard maps	Challenge	Long
Surface water versus pluvial – understanding and communication of problem	Challenge	Medium
Use technology to look at problem on catchment scale	Opportunity	Short to medium
Set up standardised framework for data collection	Opportunity	Short to medium
Understanding the true origin of flooding	Challenge	Short
Data record management (present and future)	Challenge	Short to long
Lack of information on flood events	Challenge	Short
Data sharing across LAs and stakeholders	Opportunity	Short to long
Consolidated plans (planning advice notes)	Opportunity	Medium
Data sharing formats – intellectual property rights	Challenge	Short
Data sharing formats – misrepresentation of information	Challenge	Short
Design standards for SUDs agreement amongst agencies	Challenge	Short to medium
Aligning and consistency of asset management systems	Challenge	Short to medium
Technical expertise for risk appraisal, feasibility, buildability, assessment of SUDs adoption	Challenge	Short
Learning from existing case studies	Opportunity	Short
Research into different types of SUDs and implementations (i.e. permeable pavement)	Opportunity	Medium to long



Opportunities and challenges Identified in Implementation of SWMPs in Scotland – Skills and Resources

Comment – Skills and Resources	Challenge / Opportunity	Timescale
Skills shortage	Challenge	short
Technical resources – SEPA and Las	Challenge	Short
Technical resources – surveying	Challenge	Short
Slippage in progress	Challenge	Medium
Available timescales for delivery too short	Challenge	Medium
Identification of quick wins to demonstrate progress	Opportunity	Short and medium
Available funding for up-skilling	Challenge	Medium and long
Shortage of skills to use the current flood maps	Challenge	Short and medium
Lack of available resources to deliver SWMPs in timescale given	Challenge	Short and medium
Difficulties obtaining organisational and management buy-in	Challenge	Medium
Available resources to encourage pro-active public involvement	Opportunity and challenge	Medium
Available resources to educate children (like in recycling)	Opportunity and challenge	Medium
Collaborative working – learn from England and Wales	Opportunity	Medium
Lack of staff resources and available time in regulator and LA	Challenge	Short to medium
Lack of resourcing and expertise in LAs	Challenge	Short
Continuity of capacity / resource	Challenge	Short
Share software trained staff	Opportunity	Short to medium
Share cost of software and training costs of staff to provide economies of scale	Opportunity	Short to medium
Collate and share data and resources across projects and stakeholders	Opportunity	Short to medium
Available resources in LAs and consultants	Challenge	Short
Sharing of knowledge and expertise	Opportunity	Short to long



Opportunities and challenges Identified in Implementation of SWMPs in Scotland – Stakeholder Communication and Engagement

Comment – Stakeholder Communication and Engagement	Challenge / Opportunity	Timescale
Development of local and national communication strategy	Opportunity	Short
Manage expectation of public	Challenge	Short
Manage public perception	Challenge	Short
Public education	Challenge	Short
Buy-in to strategy from SEPA, LAs and SW	Challenge	Medium
Community engagement and understanding (and the science behind it)	Challenge	Medium to long
Elected member sign-off	Challenge	Medium
SEPA, SW and LA programmes often not co-ordinated and workable	Challenge	Medium
Public and political pressure to fix issues in short term	Challenge	Short to medium
No clear direction for public engagement	Challenge	Medium
Lack of clarity on message to be given to different audiences	Challenge	Medium
Lack of clarity on engagement timescales	Challenge	Medium
Raising public awareness	Opportunity	Medium
Bringing the public on ‘the journey’ – must consult in time so public feel engaged	Opportunity & challenge	Short to medium
Promoting self-responsibility (public and developers)	Opportunity & challenge	Long
Public perception and fear of flood risk	Challenge	Short
Public expectations	Challenge	Medium
Expectations of council officials	Challenge	Short
Expectations and agendas of elected members	Challenge	Short to medium
Establishing partnership working	Challenge	Short to medium
Use of rainwater harvesting incentives (reduced water supply charges)	Opportunity	Medium to long
Incentivise reduced surface water discharges	Opportunity	Medium to long
LAs and SW working together at policy and on the ground level	Opportunity	Medium
Identification of quick wins in planning process – redevelopment areas and promotion of SUDs	Opportunity	Short
Publication of plans – this gives one year to communicate issue to public and obtain sign-up and promote early start	Opportunity	Short to medium



Comment – Stakeholder Communication and Engagement	Challenge / Opportunity	Timescale
Stress that FRMPs are cyclical and will improve over time	Opportunity	Short to medium
Opportunity to implement solutions at planning stage – right at the start	Opportunity	Medium
Opportunity to solve ‘difficult’ problems which may require multi-stakeholder involvement	Opportunity	Medium
Catchment wide approach will facilitate identification of multiple benefit areas	Opportunity	Medium
Solutions react to planning rather than influence planning	Challenge	Short
Difficulties in enforcing solutions on private land owners	Challenge	Short
Managing public expectations	Challenge	Short
Misconceptions from the public	Challenge	Short
Lack of partnership working	Challenge	Short to medium
Resistance to change behaviours in public (SW management, drainage etc.)	Challenge	Medium
Partnership working across all stakeholders	Opportunity	Medium to long
Increased education amongst stakeholders	Opportunity	Medium to long
Awareness raising amongst planners / developers on importance of drainage, runoff and flood risk	Challenge	Short to medium
Awareness raising for public responsibility and maintenance of SUDs on their property, and other issues associated with watercourses and drainage	Challenge	Short to medium
Education of members and politicians, especially regarding realistic expectations	Challenge	Short to long
Educating roads staff to the benefit of roads – not necessarily a problem for roads	Opportunity	Short to medium



Opportunities and challenges Identified in Implementation of SWMPs in Scotland – Funding & Legislation

Comment - Funding & Legislation	Challenge / Opportunity	Timescale
Pressure to deliver quick fixes as opposed to correct long terms strategy	Challenge	Short to long
Are long term solutions technically feasible	Challenge	Long
Integration of long term strategies with current implementation plans	Challenge	Short to long
Availability of future maintenance funding	Challenge	Long
Preparing reports where no financial funding	Challenge	Medium
Various political and funding conflicts	Challenge	Short to long
Planning enforcement of development	Challenge and opportunity	Short to long
Available finances not sufficient to deliver expectations	Challenge	Short to long
Lack of financial certainty / guarantee of funding	Challenge	Medium
Integration of financial systems to deliver planned schemes	Opportunity	Long
Developers pay more	Opportunity	Long
Funding wider surface water management benefits in the private sector / development	Challenge	Medium
Availability of funding over time	Challenge	Medium to long
Prioritising spending of funding on surface water management schemes	Challenge	Medium to long
Lack of policy guidance – policy not defined	Challenge	Short
Legislative timescales and delivery expectations	Challenge	Short
Roads departments not liking permeable pavement, ownership and future maintenance	Challenge	Medium
Adoption and ownership of assets	Challenge	Medium
Adoption funding	Challenge	Medium
Use of rainwater harvesting incentives (reduced water supply charges)	Opportunity	Medium to long
Incentivise reduced surface water discharges	Opportunity	Medium to long
Develop KPIs for delivery of plans and reduction of surface water discharges and link to funding incentives	Opportunity	Long
Maintenance of SWMP implementation measures	Challenge	Short to medium
Ensuring funding decisions are transparent	Challenge	Medium
Getting appropriate or matched funding from other stakeholders	Challenge	Short to medium
Legacy of unknown assets – who owns and is responsible for these?	Challenge	Short to medium



Comment - Funding & Legislation	Challenge / Opportunity	Timescale
Control and allocation of funding over time	Challenge	Medium to long
Conflicting local politics and promises	Challenge	Short
Economic pressures to deliver	Challenge	Short to medium
Lack of planning enforcement and uncertainty of legislative controls	Challenge	Short to medium
Clarification of legal responsibilities amongst stakeholders	Challenge	Medium
Alignment of funding cycles between Scottish Water and LAs	Challenge and opportunity	Short and long
Local plan cycle for each LA is different	Challenge	Short to long
Joint financing of solutions	Opportunity	Medium to long



Opportunities and challenges Identified in Implementation of SWMPs in Scotland – Guidance

Comment - Guidance	Challenge / Opportunity	Timescale
Available SWMP Guidance at start	Opportunity	Short
Hazard Maps available and consistency	Opportunity	Short
Standardised, but flexible SWMP appraisal process	Opportunity	Short
Partnership protocols and standards	Opportunity	Medium
Collaborative working	Opportunity	Medium
SUDs legacy and responsibilities	Challenge	Long
Clarity on responsibilities	Challenge	Short to long
Knowledge and skill transfer	Opportunity	Short
National design authority for SUDs	Opportunity	Medium
Clear guidance on tools and design of SUDs (e.g. Oxfordshire porous paving)	Opportunity	Short to medium
Development of standardised templates across LAs for SWMPs	Opportunity	Short to medium