

# The St. Mary's Loch Working Group (SMLWG)

**Stakeholder Newsletter — Issue No. 2 — 1st July 2011**

## Completing the Feasibility Study

Since last autumn Halcrow have been developing a Feasibility Study to investigate the proposed St. Mary's Loch (SML) Flood Storage Option. The overall aim of this study is to determine the technical viability of taking forward the proposal to utilise SML for flood storage.

The ultimate purpose of the study is to inform the members of the SMLWG so that they can take a decision on whether the SML Flood Storage Option is formally progressed.

The study comprehensively reviews the practicalities and implications of modifying the operation of the existing Outlet Structure at the bottom of SML from a technical and environmental perspective. It

determines how such changes can be made and the costs, risks and opportunities associated with them.

It also definitively quantifies the reduction in flood risk that can be delivered to the Yarrow Valley and Selkirk. This quantification required Halcrow to extend the model developed for Selkirk to cover the Yarrow Valley and SML thereby providing a tool to analyse both historical and theoretical flood events.

The Project Team have recently been analysing a series of difficult 'what if' questions posed by the SMLWG. As an example: 'If there is a drought, how will the water levels be managed to ensure the Yarrow Water has enough water to support fish life?' The answers to these questions are all addressed in the study.

The Feasibility Study's Final Report is currently drafted and its 230 pages are being reviewed by members of the SMLWG.

Once completed, in mid-July, the SMLWG can commence finalising the SML Flood Storage Option secure in the knowledge that the Feasibility Study provides the supporting engineering and environmental assessment of the proposals.

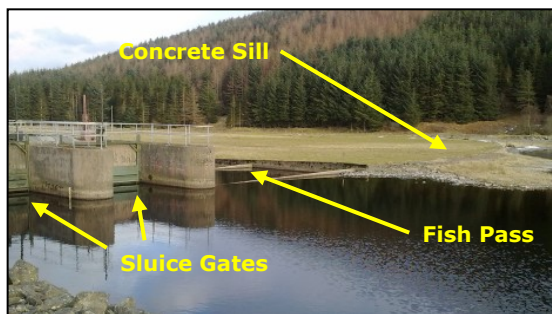


Figure 2.1 — A view of the existing Outlet Structure at the bottom of SML. This Structure was built as part of the Megget Scheme during the 1980's.

Image courtesy the Selkirk FPS Project Team

## Remembering the flood of November 2009

On the 19th November 2009 the Yarrow Valley experienced the highest water levels in living memory. This was the front edge of the same Atlantic Storm that caused devastating flooding to parts of Cumbria.

Halcrow's Design Manager, Steven Vint, confirmed to the SMLWG that it was a 1 in 75 Year Flood Event that was

experienced on the Megget Water and at St. Mary's Loch that day. He was also able to confirm that the flood was due to exceptional rainfall in the hills behind SML and not management of The Megget Reservoir by SW.

The Hydraulic model that has been developed to analyse the potential of the SML Option was used to recreate the Flood

Event that occurred in November 2009. Thankfully this time the flood existed only in Halcrow's computers.

The Council hope the SML Flood Storage Option can be delivered quickly, thus providing flood risk reduction benefits to the Yarrow Valley and Selkirk before another major flood event occurs.

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### Special points of interest:

- **The term "1 in 75 Year Flood Event" does not mean that such a flood will happen every 75 years. It is a statistical term used in association with flood events and it relates to the level of the loch / river which has a 1 in 75 chance of happening in any given year. It does not mean it will happen every 75 years; it could happen next week and then again next month, or not for 500 years.**

# reducing flood risk, enhancing the environment

## Marker Posts and Notice Boards around the Loch

The Project Team designed a set of five timber Marker Posts which have been installed around SML to assist with your understanding of what the SML Option is proposing.

The specific locations are at 1) by the Southern Upland Way 2) at the SML Sailing Club 3) by Tibbie Shiels 4) by the SML Angling Club and 5) by Cappercleuch Hall. These locations are detailed on Figure 2.2 below.

Each post has been marked with levels and is accompanied by a Notice Board which provides an explanation of the SML Flood Storage Option and the levels on the Marker Posts.

The levels confirm the existing flood risk posed by a number of milestone Flood Events and the corresponding levels after the SML Option has been put in place.

The Marker Posts clearly identify that **the SML Flood Storage Option will marginally increase the flood risk around the loch: this is a direct trade**

**off against the reduction in flood risk in the Yarrow Valley and Selkirk.** With the exception of the SML Sailing Club Clubhouse that increased risk does not affect property.

The increased flood risk will only be realised during major flood events. Under normal circumstances the loch levels will be lower than experienced just now.

The levels identified also detail the existing and proposed loch levels. These cannot be displayed on the Marker Posts as they would be under water, however the graphic illustration on the Notice Board allows the viewer to appreciate the water levels relative to the ground level at the Marker Post.

**The SMLWG will consider all implications associated with altering the water levels** and the Project Team will be speaking directly to anyone who is directly affected by the proposals.

It is proposed that a rock weir is put in place to ensure that there is no change in the levels at Loch of the Lowes.

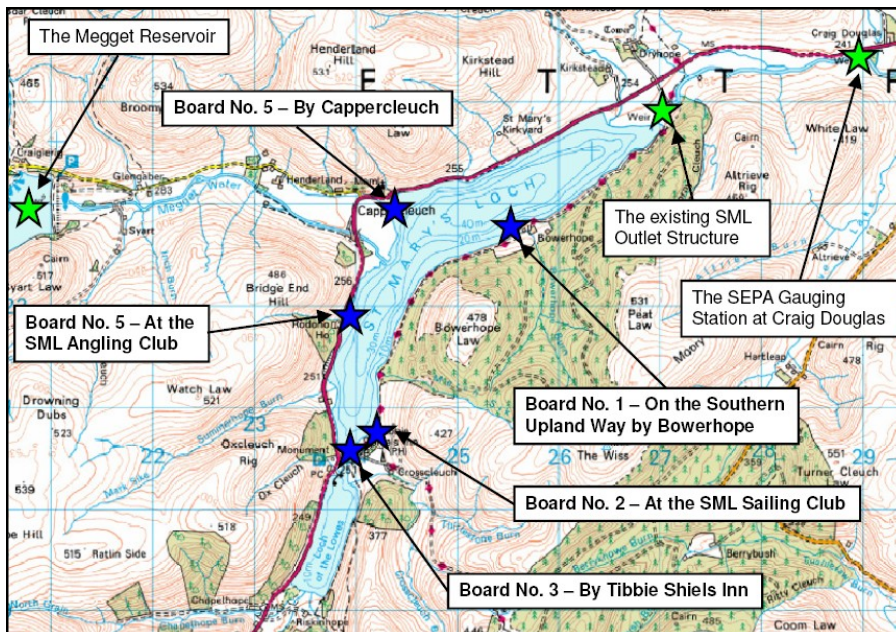


Figure 2.2 — Image courtesy of the Selkirk FPS Project Team

A map detailing the locations of the five Marker Posts and Public Notice Boards around St. Mary's Loch



Figure 2.3 — Image courtesy of Selkirk FPS Project Team

View of the Notice Boards & Marker Posts

## How will the SML Option reduce flood risk?

The stated aim of the SML Option is **“To continue work to establish a new management system at St. Mary’s Loch which will deliver a level of flood risk reduction to Selkirk (including Lindean) and the Yarrow Valley.”**

The Project Team can now reveal that this can be achieved through a combination of the following measures:

- The over-riding principle of the flood storage proposal is to deliver flood storage whilst minimising the environmental impact on the loch. Therefore, during ‘Normal’ conditions, the expected average loch level will be only 250mm lower than the current average loch level.
- In advance of a Flood Event, the loch level can be drawn down by a further 750mm.
- During a Flood Event the loch will be allowed to fill, as it currently does, but starting from this lower level.
- The level at which the loch cur-

rently spills over the concrete sill will be increased by 250mm to further increase the storage capacity of the loch.

- This will allow approximately 3 million cubic metres of water to be held in the loch and thus kept out of the Yarrow Water.
- Once a Flood Event has passed, the flood water held in SML will be released in a controlled manner through the two Sluice Gates in the existing Outlet Structure. This will return the loch level to the desired ‘Target Loch Level’.
- These Sluice Gates will be managed by a new automated control system that will be programmed to intelligently consider the loch level.
- The loch level will be managed through consideration of the expected general weather conditions such that the loch level is lowered in advance of a wet spell and raised in advance of a dry spell.

**We currently estimate Peak Flows in the Yarrow Water will be reduced by**

**up to 20% during the 1 in 25 Year Flood Event.**

Conor Price, Project Manager for the Selkirk FPS, commented that “once the new management system is in operation, and a reduced ‘Normal Loch Level’ is implemented, **the most tangible change will be a retreat in the edges of the loch.** As such, modifications will require to be made to a number of piers and jetties around the loch. We do not, however, expect the creation of a barren littoral zone (loch edge) as we will assist the loch’s existing edge side vegetation to migrate to the new, retreated, loch edge”.

The details of how the proposed SML Flood Storage Option will be operated, and all of its implications, will be debated by the SMLWG at their next meeting when it is hoped a draft agreement can be achieved.

**The next Meeting of the SMLWG will be held on 27th July 2011**

It is intended to present the finalised proposal to a public meeting in the Yarrow Valley later in the summer.

## New pages on the Project Website to keep you informed

The Project Team are excited to announce that the following new pages have been added to the Project Website:

- A page on the SML Flood Storage Option;
- A page on the SMLWG; and
- A page on the SML Marker Posts and the Public Display Notice Boards.

**These pages are dedicated to keeping you informed on the SML Flood Storage Option and the activities of the SMLWG.**

Copies of all SMLWG Newsletters will be available for downloading and a *Latest News* section has been added, to keep you informed with progress.

**We’re on the Web!**

[www.selkirkfloodscheme.com](http://www.selkirkfloodscheme.com)

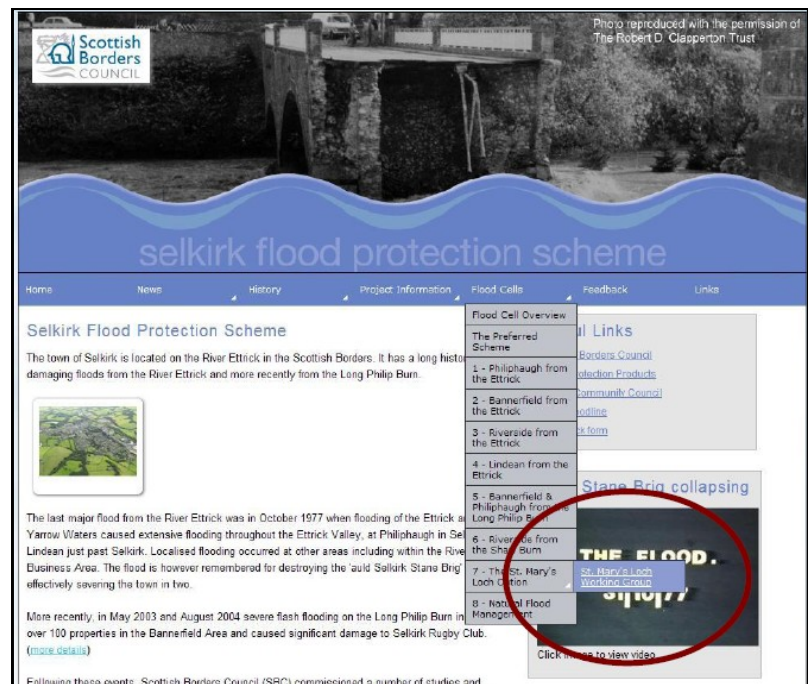


Figure 2.4 — Image courtesy of Selkirk FPS Project Team

View of the Selkirk FPS Project Website with the new SML pages highlighted

# selkirk flood protection scheme

## Contact Details for the SMLWG Members

The following people are on the St. Mary's Loch Working Group (SMLWG) and may be contacted if you wish to discuss any aspect of the St. Mary's Loch (SML) Flood Storage Option:

Name:	Representation:	Email Address:	Phone No.
Conor Price	Project Manager—Selkirk FPS	<a href="mailto:conor.price@scotborders.gov.uk">conor.price@scotborders.gov.uk</a>	07525 742361
Steven Vint	Design Manager—Selkirk FPS	<a href="mailto:vints@halcrow.com">vints@halcrow.com</a>	0141 4042299
David Green	Scottish Borders Council	<a href="mailto:dgreen@scotborders.gov.uk">dgreen@scotborders.gov.uk</a>	01835 825180
Dougie Scott	Scottish Water	<a href="mailto:dougie.scott@scottishwater.co.uk">dougie.scott@scottishwater.co.uk</a>	0131 4456783
Victoria Reeves	SEPA	<a href="mailto:victoria.reeves@sepa.org">victoria.reeves@sepa.org</a>	01896 754797
Richard Kehoe	Scottish Natural Heritage	<a href="mailto:richard.kehoe@snh.gov.uk">richard.kehoe@snh.gov.uk</a>	01896 756652
Nick Yonge	River Tweed Commission	<a href="mailto:nyonge@rtc.org.uk">nyonge@rtc.org.uk</a>	01896 848294
Martin Andrews	The Riparian Owners	<a href="mailto:estateoffice@wemyssandmarch.co.uk">estateoffice@wemyssandmarch.co.uk</a>	01875 870201
Jim Bradshaw	Ettrick & Yarrow Council	<a href="mailto:wibrads@aol.com">wibrads@aol.com</a>	07967 172039
Keith Robeson	The SML Users	<a href="mailto:krobeson@scotborders.gov.uk">krobeson@scotborders.gov.uk</a>	01835 826750

### We're on the Web!

The Project has a website dedicated to the keeping you up to date with news, information and forthcoming events.  
Please visit the website at:

[www.selkirkfloodscheme.com](http://www.selkirkfloodscheme.com)

If you cannot access the website please contact Conor Price in the first instance.

working in partnership to deliver flood risk reduction



The Riparian Owners



The Users of St. Mary's Loch

Ettrick & Yarrow Community Council