

**BALLATER FLOODING ISSUES GROUP UPDATE
BALLATER & CRATHIE COMMUNITY COUNCIL (B&CC)**

www.ballaterandcrathiecommunitycouncil.com

Minutes of Meeting held Thursday 16th November 2023

Held with Ballater (RD) Ltd Flooding Action Community Team (FACT)

Present: Flooding Issues Group (FIG): Richard Frimston Richard Bush Neil Duncan Lucile Verrot (FACT): Jim Luff Members of Public	NOT present: SEPA CNPA Aberdeenshire Council Officers Andrew Bowie MP
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Richard Frimston welcomed everyone to the meeting. It had been hoped that Andrew Bowie would act as chairman but he was unable to attend. Aberdeenshire Council had been invited to present the results of the RPS Additional Flood Study, but they did not wish to do so.

Richard outlined the flooding timeline for the community:

- 2015 - Storm Frank
- 2019 - RPS Study & Report which was presented to the community in April 2020 and resulted in Option 3A being selected as solution by Aberdeenshire Council
- 2020 - Aberdeenshire Council make application for funding of Option 3A to Scottish Government
- Feb 2021 - high water event
- Feb 2022 - RPS Additional Study commissioned
- Nov 2022 - high water event
- Jun 2023 - RPS Additional Study published
- Oct 2023 - high water event.

As Aberdeenshire Council were unwilling to present the results of the report to the community, FIG members, consisting of Richard Frimston, John Bannerman, Tom Flynn, Richard Bush, Neil Duncan and Lucile Verrot had come together to produce a presentation collating the information.

Ballater RPS Additional Study

Richard Bush introduced himself as an engineer who had moved to the village and who had undertaken to interpret the Additional Study for the community. Full details of the Additional Study can be found on <https://ballater-fps.com/additional-supplementary-reports>.

The report set out to:

- Identify changes to flood risk following changes to the river
- Assess potential for minor works to mitigate flood risk.

The study undertook site surveys looking at the condition of existing defences as well as 45 new river profiles due to previous flooding events. They also created a new high resolution ground model.

The report used hydraulic modelling to establish flood mechanisms and to compare differences in the flood extent between the 2018 survey and the current 2022 survey. Hydraulic modelling would also evaluate minor works as options to manage the risk of future flooding.

The key conclusions from the Additional Study are:

- Sediment from Storm Frank and further flooding events has altered the channel configuration of the River Dee, directing the main channel of the river away from the Muick side of the river towards the Ballater side.
- The river is now wider in the area upstream of the Muick which means slower speed of water resulting in more sediment deposits.
- The sediment deposits and a change in direction of the river have led to increased erosion of the left bank near to the 5th tee of the golf course.

The study considered a range of characteristic flow rates for the river. A small flow would be a flow of about 400 cubic metres per second. This is the range of flow rates that have been experienced in Ballater this Autumn. A medium flow would be double that, so 800 cubic metres per second. A high flow would be Storm Frank which was 1200 cubic metres per second (i.e. three times the small flow rate).

The existing informal defences were reviewed and the embankment or bund around the river described. The bund does offer Ballater some protection but the top level is not consolidated so if it is significantly overtopped it can cause a breach leading to rapid flooding. This occurred at several locations during Storm Frank.

Five flood mechanisms were identified:

- At low flow rates the bund is overtopped near the start of the Red Braes and the flow then passes down the inside of the bund down to the left of the 6th Fairway until it enters the lower end of the so-called Legacy Channel (originally the left bank of river at some time in the past) on the Golf Course. This old left bank blocks the flow path to the village and the water flows out again to the river.
- More over-topping of the bund neat the 14th tee and water enters the Legacy Channel this time further up and then once more passes back into the river further downstream before the caravan park
- Further over-topping near the 5th tee (and what seems to happen more frequently now), the river overtops into the golf course and flows down the 4th Fairway across the caravan park and into the village.
- At a medium flow rate the model predicts that the left bank of the legacy channel is overtopped and this allows flows to develop across the golf course towards the club house and then into the village.
- High flow overtops at Sluievannachie and goes down golf course at back of gardens on Abergeldie Road and then into village (this mechanism was triggered in Storm Frank).

During a high flow event (Storm Frank or greater), there was no difference in the number of properties affected by flooding between the 2018 and 2022 survey. However, in medium flow flood events, it was estimated that 195 more properties could potentially be flooded, double the number from the 2018 survey. However, 95% of those 195 properties would be flooded by water to a depth of 0.6metres, suggesting that Property Level Protection, in the form of flood gates and other defences, could be of some benefit for suitable properties.

The Additional Study then looked at what minor work could be undertaken to mitigate flooding and how effective that might be. Seven options were explored:

- Remove dead trees and use in bank reinforcement. However, whilst the method of using trees in that way was supported the model suggested it would have limited effect on the extent of flooding, so that this option was not carried forward.
- Clear out the channel at Glen Muick and reinstate the original flow of the river. This would be major engineering work, with estimates of 1000s of truckloads of sand & gravel to be moved. However, whilst the model results suggested it would reduce flooding across the golf course it was predicted that it would also result in properties being affected by flooding further downstream and overall the model predicted a net increase in affected properties. This sediment

management proposal was therefore rejected. The report observes that other sediment management options could be considered that could have a positive effect on flooding in the village but also lists the inherent challenges potentially associated with them.

- Clear the Golf Club outlet of the Legacy Channel - and increase the depth of this by 0.5m. This gave small but consistent reduction in flooding risk and was carried forward to be used in the last option referred to below.
- Replace the bund at the 5th tee of the golf course. This showed a consistent increase in extent of flooding probably because flood mechanisms upstream of this defence would allow water to get on this inside of this defence and the defence then prevented that water flowing back into the river (directing it towards the village instead).
- Build up/extend the North golf course bund - limits the flood mechanism 5 and this was shown to be effective producing a consistent medium decrease in flood affected properties. This could be a secondary option to be implemented.
- Build a longer bund 440 metres long, 1.5 metres high to effectively extend the left bank of the legacy channel to the south and clear out the outlet channel. This option (option 7) would protect 165 of the 195 additional properties in the medium flow condition and was therefore the most effective of the options considered.

Water Flow Rates

Lucile Verrot introduced herself as a hydrologist and environmental engineer, living within the flood zone of Ballater. She emphasised that she had collated water flow rates information and researched effect of flow rates on flooding as an independent exercise from publicly available data. Although she is employed by SEPA and responsible for flood alerts and warnings and analysing data to support these decisions made by SEPA, she was very much speaking in a personal capacity and not in any way representing SEPA.

We need to understand the mechanism for flooding and water flow rates can assist. SEPA has 3 water flow gauges in this area; this data is available on SEPA's website. There is a gauge at Polhollick, the Muick and the Gairn. Lucile had collated the data from each gauge to show the water flow at Ballater during each high water event in November 2022 and October 2023. During each of those, the flow remained at around 450 to 680 cubic metres. She had taken photographs to show the flooding extent on the road at her house, which varied according to the level of water flow. She would welcome any further community information and photographs from flood events to analyse in conjunction with water flow rates.

Flooding Issues Group (FIG)

Richard Frimston gave an update on what the group is currently working on. The Emergency response in Ballater was very good, thanks in great part to the work of Linda Drever and her team at Ballater Resilience Group, as well as Richard Cooper at the Fire Service and Police Scotland. John Bannerman continues to work with the Scottish Flood Forum to encourage Property Level Protection.

However, the village is in limbo, because Aberdeenshire Council refuses to look at any other possibility of reducing flooding risk to Ballater, pointing to Option 3A as their solution, although it is extremely unlikely that this will receive the go ahead from the Scottish Government, bearing in mind that it is competing with numerous other flood defence applications, and should it ever be granted, the cost would probably make it impossible to implement.

To this end, FIG is looking at what low level schemes might be possible and hopes to commission designs from CBEC Eco-Engineering UK Ltd (CBEC) to explore this further. FIG has also persuaded CNPA to include water management in its remit and continues to meet with SEPA, local estate owners and Aberdeenshire Council to consider upstream water storage as an option.

Richard emphasised that all involved in presenting tonight's meeting are volunteers.

Flood Action Community Team (FACT)

Jim introduced the work that FACT is undertaking on the golf course, which primarily involves looking at the Golf Course channel and a temporary bund as outlined in option 7 above. They are all volunteers. The channel is in a Special Area of Conservation, so they must tread lightly. They may clear flood debris, but cannot do anything to deepen the channel as this comes under the remit of Nature Scotland and SEPA. Regarding a temporary bund, it is possible for them to fill Hesco boxes with sand to create this. AbCo have confirmed that no planning permission is required on the basis that the bund can be classified as an exterior wall not near a road. The Golf Course and Caravan Park have both given permission for this work to go ahead. The Hesco boxes need to be installed at least 10 metres from the river bank, otherwise a licence would be required from SEPA. Re-profiling of the legacy bank would also require SEPA consent. Low points in the path can be repaired to prevent over-topping without any need for consents

Neil Duncan then discussed the next steps for FACT and what the community can do to help. Volunteers are very welcome. To let the community know what is happening, a

new FACT facebook page will be set up. There will be an article in a future edition of The Eagle. All ideas to limit the effects of flooding are welcome and contact should be made to the Community Council - bcccsecretary@outlook.com

Property level Protection can be expensive and we should all work together to protect our property. There are plans for a fund-raiser. While labour is provided by volunteers, machinery for some projects requires funding. The Bund and clearing the channel are estimated to cost £20,000 to £25,000, led by volunteers, but a contractor-led project might cost closer to £200,000. Funding will be sought from local businesses, as well as from the community.

Richard Frimston then opened the floor to questions and comments from the Public.

Tony Millership pointed out the difference in heights of the water at the front and rear of his house during Storm Frank and the reasons for it.

There was concern that Option 3a is stopping alternative solutions being sought. There was strong feeling that Aberdeenshire Council was using Option 3a as a statutory defence to seem as though they were doing something, even if it was not what the community wanted. There was virtually no support for option 3a in the hall (one or two of the audience), with the economic consequences being disastrous for Ballater. It was not clear if this was accepted by Aberdeenshire Council.

Richard Bush acknowledged that the modelling has limitations and it did not (and possibly could not) show the effect of a breach in the flood defences owing to uncertainty of the time at which a breach or breaches might occur. Multiple alternatives would have to be modelled. It is difficult to model for events such as Storm Frank, but it is possible to calibrate the model for the flood levels actually experienced. In summary modelling has limitations but can still be helpful in understanding flood events and evaluating the effect of local defences

Several of the audience queried why the sandbank at the mouth of the Muick could not be cleared. However, Richard Bush pointed out that the modelling, rightly or wrongly, showed that removal of the sand would result in increased flow rate further downstream. He mentioned that the report suggested that other sediment management options could be considered and whilst sediment management does have inherent challenges other options could be considered. Richard Frimston suggested that the CBEC survey into solutions could look in more detail at what would happen if the river were re-profiled.

The problem of the erosion of Red Braes was mentioned, as the sediment and trees from that had resulted in the bund being breached in Storm Frank. Red Braes continued to be a problem.

Someone asked why the community allowed SEPA to dictate, when SEPA seemed unwilling to attend local meeting such as this to inform the community. It was suggested that the Hesco boxes should be filled with sand from the river, but as Richard Frimston said, no volunteer wished to be responsible for any flooding damage to anyone further downstream, which is what the experts suggested would happen. The experts are, after all, insured against such mistakes.

Cat Houston expressed gratitude for all the volunteers who had been responsible for bringing this information together for the village, and helping to show that we might well have to fix the problem ourselves.

Francie Duguid, who had been BCCC chairman at the time of Storm Frank, believed the bund built in the 1980s to create the riverside path and protect the golf-course was the real culprit for flooding. The bund on the golf course forced water towards Red Braes, resulting in further erosion. The natural flood plain should be the golf course. In his opinion, supported by Tony Millership, bunds created problems both upstream and downstream. He suggested that the river should be looked at as a whole, including the Clunie, the Muick and the Gairn. A breach in the bund resulted in a tsunami of flooding. It was agreed that a combination of long-term local knowledge and engineering expertise should be the solution.

Sandy Downie emphasised how important it was for mental health of the community that flooding defences had to be worked on, sooner rather than later.

Neil Duncan said that a letter had been sent to Aberdeenshire Council seeking clarification on who was responsible for what in the river eg tree clearing from pools.

There was an overwhelming majority in favour of the new Hesco bund.

Ted Emslie suggested that there might be options for a flood plain on the south side of the river, below the council depot.

It was suggested that Ballater should speak to other communities on the river, upstream and downstream, to lobby SEPA and Aberdeenshire Council for initiatives.

There is community disappointment that 8 years have passed since Storm Frank, with no flood defences in sight, other than what local volunteers have undertaken.

While many in the local community see the elevated river bed to be a problem, this may not be economic and would require SEPA consent.

Francie Duguid suggested that stabilising the Red Braes should be a number one priority. Richard Bush stated that the land owner had been approached to discuss whether or not trees could be cleared from the Red Braes to prevent these falling into the river. He agreed that stabilising the Red Braes should be considered, but pointed out that it would be a major engineering project with significant costs. He also wondered whether or not multiple breaches of the golf course bund and rapid flood of the village could still occur at high flow rates whether or not the Braes were stabilised. Francie suggested that rock drops such as installed at Abergeldie Castle might be an idea. It was agreed that this could be an option and suggested that the next step should be to develop a costed option for stabilising the red braes that could then be evaluated.

Many were disappointed that Andrew Bowie MP had not turned up to chair the meeting. Trevor Armstrong pointed out that the decision on option 3A was devolved to Holyrood, so the local MSP should be lobbied. Victor Jordan suggested that MSPs from all regions should be lobbied to support flooding defences. Richard Frimston welcomed all such support and a member of the audience suggested that everyone should go home and write a letter to MSP.

There was a round of applause in recognition of all the work undertaken by FIG and FACT volunteers to date.

Meeting ended at 8.50pm