



The Culloden Viaduct - in felt

**A one-day project to create a felt banner
with members of the
Highland Decorative and Fine Arts Society**



This book gives an account of the day when nine members of the Highland Decorative and Fine Arts Society came together under the guidance of textile artist Ruth Black to create a large felt banner. As the Society were busy organising an exhibition of art inspired by the Culloden railway viaduct, it was decided to keep with this theme and have the banner ready to be displayed during the exhibition.

It had been agreed beforehand that the banner should not attempt to be a realistic view of the viaduct, but rather an amalgamation of the landscape features that represent the area of the viaduct. The other features identified were the Clava Cairns (a system of ancient burial cairns surrounded by standing stones in natural woodland) and the River Nairn which flows below and through the viaduct.

The project was carried out at the Green Tree Art Studio in Ferness, Nairnshire where we used a spacious light, bright room and were served a lovely lunch of homemade soup and bread followed by strawberries and cream. The day started at 10am and we were all done by 3.30pm

The principal methods employed were wet inlay felting, colour blending and needlefelting. Photographs were taken throughout the day and are presented here to give readers a feel for how the work progressed.



One of the Clava Cairns - the one closest to the viaduct

Ruth Black is a textile artist working from her studio in Inchmore, near Inverness. She is an embroiderer, weaver and feltmaker and dabbles in many other textile related crafts. Within the embroidery discipline she particularly specialises in Celtic Design, working with wool fabrics such as Harris Tweed and tartans.

She weaves Harris Tweed on a traditional Hattersley loom when she visits her mother on the Isle of Lewis, something she does about once a month, for a few days at a time.

Ruth makes felt for her own embroidered art pieces and also teaches the subject. Some of this is at her own studio, other times she goes out to work with different groups often undertaking community projects where people come together to create a single piece of public art.

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The room we used had a long trestle table on which I put all my baskets of fibres. I set up my felting table in the middle of the room with the trestle legs set to their highest position, making it more comfortable to stand at than most tables. An actual size schematic diagram was spread out on the table along with some photographs of the features we wanted to use.



The first task was to select appropriate colours of Merino wool fibres for our various components – in this case, blues and greens for the river.



With colours selected, we laid pieces of bubblewrap on the table and started laying down the fibres in small thin tufts. On the left you see people laying down various browns, golds, peaches and rusts which make up the colours of the viaduct stonework. On the right in the foreground you see some of the blues that will make up the piece for the river.



At the other end of the table small tufts of varying shades of grey were being laid down to create pieces for the cairns and standing stones.



Everyone worked together to create a good blend of colours.



Gradually the layer of fibres built up until no bubblewrap can be seen between the fibres.





We did a fingertip touch test to ensure an even coverage of fibres. This involved not looking at where we pressed – either by keeping eyes closed or deliberately looking elsewhere. Each time a thin patch was located this was filled in with a little more wool.



Satisfied that we had an even thickness for our first layer, we started adding another layer, this time with the fibres running at right angles to the layer below. Again, people worked co-operatively to get the colours blending together. We wanted to achieve the warm golden glow of the sandstone from which the viaduct was constructed.

For the blue section that would become the river, the second layer of fibres was deliberately made with lighter colours. It was hoped that some of the darker colours would come through in places creating a ripple effect.



The stones and boulders from which the cairns were constructed are mostly light grey and pale beige and heavily covered with lichens. These lichens vary from grey to green, but mostly all quite pale, soft shaded. We needed some dark greys and blacks to create shadows and give the appearance of separate rocks.



With our two layers complete we were then able to add some surface interest in the form of other fibres. Angelina fibres are very fine, iridescent, metallised plastic fibres which create a bit of sparkle – e.g. sunlight on water, mica crystals in rocks. We also chose some silk and mohair fibres for additional texture.



These additions had to be made sparingly – less is more! – and as none of these fibres felt in their own right, they had to have a very fine web of merino wool added on top to trap them onto the surface of the felt.





Some blue and green angelina was added onto the river section and fine webs of pale blue merino wool were used to trap them in place.



Silver glittery strands are added to the “rocks” along with various other textural additions. The important thing was to add interest to the surface in a way that was going to create some sparkle, but not really be noticed except on very close inspection. As the felting progresses, these fibres don’t shrink, though the wool around them does. This creates a crinkly texture.

A final check that everything was in place.....



We poured warm soapy water onto our fibres and covered them with sheets of bubblewrap. The water was spread throughout the fibres to ensure they were all completely wet.



Where necessary, the bubblewrap was peeled back and a little more water added, mostly along the edges. Inevitably, some water ended up on the floor, but was mopped up with towels.



When we were happy that all our pieces were completely wet and smooth, we started rubbing..... and rubbing..... The soap (in this case, bubblebath) acts as a lubricant allowing the wool fibres to easily slide past each other. The bubbles of the bubblewrap ensure that water travels in a multitude of directions, so tangling up the wool and creating a piece of felt. For this part, it was important not to take the felting too far. We wanted just enough rubbing to hold the fibres together, but not so much that they wouldn’t felt any further for the later stage of our project. After a few minutes we turned each piece over and rubbed some more on the reverse.





There was a lot of talking and discussion as we worked. Feltmaking is a very good medium for community art as a lot of the time there is not much concentration needed.

To ensure that each part got the same treatment, we moved around the table every few minutes.



When we had all done a full circuit of the table it was time to stop.

To save time, I had traced the design for the viaduct onto a special fabric that could be used as a pattern. It is the kind of non-woven fabric that is used as a tear-away backing for machine embroidery. It is useful for this as it does not disintegrate if it gets wet, can be drawn on with a permanent marker pen and can easily be pinned. Here you see people pinning the pattern in place.



For the stones, people simply cut free-hand to create a lot of small boulder-shaped pieces and some large pieces to be used as standing stones.



When the pattern was in place people started cutting out the arches.



The piece for the river was cut roughly to size, but until we were ready to use it, we would not know exactly where to cut.





After just a few minutes of concentration and cutting we had our viaduct and a large collection of boulders from which to build our cairn.



The paper pattern was carefully un-pinned and the cut piece gently folded up to be put to one side. The boulders were piled into a bowl out of the way and the river also folded and put aside.

Then we cleared the decks and laid a large sheet of bubblewrap over the table, followed by a sheet of ice wool. This is a fabric normally used as insulation in expensive jackets, but it forms a good backing for felt. It is a mix of loosely knitted acrylic yarn spun with loose wool fibres, so the wool of our felt traps and incorporates the fabric.

Then we started work on the background. This was to be two layers of wool fibres at right angles to each other. As we wanted the top layer to be horizontal – reflecting the contours of the landscape we were depicting – we laid the first layer vertically. Everyone moved around the table as we added the wool to ensure we got an even thickness.



The white merino fibres used for this layer pull apart very easily compared with the coloured fibres.



The tabletop measured 120cm x 240cm and the whole surface had to be completely covered.



We did a fingertip touch test to be sure we had filled in all the gaps.



After just a few minutes we were satisfied that there would be no thin patches in our banner and we could move onto the next, more creative stage of the project.



We were aiming for an “impressionist” style of landscape, blending the colours to get the feel of the area.



To reflect the time of year we added some bright yellow for gorse and vivid blue for the drifts of bluebells that grow below the viaduct.



We had decided beforehand that the banner should incorporate the NADFAS logo so a suitable sized white rectangle was laid down for this – the logo having been cut by me in advance at my studio with my laser cutting machine.



Happy with our layout, we poured on several litres of warm soapy water, covered the fibres with bubblewrap and wetted and flattened as before. Then we could remove the bubblewrap and start creating our picture by adding the pieces we had cut out earlier.



It took quite a lot of manipulation to get the viaduct in place. As this would be the dominant feature it was important to get a smooth line with the gentlest of curves for the top edge. There was a lot of adjustment to get this right.



Satisfied that the viaduct was right, we positioned the river and trimmed the blue felt so that it would fit properly through the large arch of the viaduct. Studying the photographs, we could see that the river had very clearly defined edges and it was important to show this in our picture.



We had to make a decision about where to cut the felt that represented the river. As our composition was made up we had no photographic reference for this and had to make a judgement call.



Finally we started to build our cairn. It was constructed with a wall of large boulders around the base and filled in with hundreds of smaller stones on top. We had to cut pieces much smaller than we had originally thought.

The logo cut-out was placed on top of the white rectangle and then we could start titivating.



The arches of the viaduct all needed shadows adding to create depth. This was done by adding some dark brown fibres to the edges of our cut-outs.



As the river flows through natural woodland, we spent time creating the impression of trees and branches all along the river bank. This was done with some space-dyed pencil rovings of merino wool. Some shadowed parts were also added to the standing stones and some rocks added to the river.



We added "leaves" to our trees by snipping little pieces of green pencil rovings at random around the branches. People were a bit sceptical about how this would work but I persuaded them to have faith.



Then we just did a final check and a little bit more titivation.





We added a little more water to the parts that were quite dry – trees, logo etc. then covered the piece with the bubblewrap and started the serious rubbing.



This time we were aiming at fully felting the fibres, so a lot of rubbing was needed over the whole area. To ensure each part got the same treatment, everyone moved around the table every few minutes. We all had very clean hands by this stage!

After about 40 minutes of rubbing we turned the whole piece over, still sandwiched between two layers of bubblewrap. As we had poured on some 10 litres of water, the wet felt was very heavy, but we had a good team and achieved it quite easily.



It took a few minutes of stretching and smoothing to get the upside down felt evenly spread on the table. We could now see the edges of the table all round, so the shrinking that is part of the felting process had begun.

It took another 30 minutes of rubbing before I was satisfied that all was working according to plan.



We then removed the top layer of bubblewrap and continued the rubbing with our hands flat on the felt. We could now see all the coloured fibres penetrating the white layer, particularly at those points where there were cut edges.



Happy that everything was fully felted, we rolled the piece up and did a quick lift across to the sink where we squeezed out as much of the soapy water as we could.





Before returning the felt to the table, we put slabs of expanded polystyrene over the whole surface and spread the felt out on top of this. The polystyrene gives a base for need felting. Felting needles have small, downwards facing barbs which catch on the wool fibres and allow them to be pushed down into the felt. It is a way of adding fine detail and also ensuring that any parts not entirely felted during the wet felting stage were fully secured.

By standing on the bench, people could look down on the felt and get ideas of where more detail was needed.



We could have spent days adding more and more detail, but we were restricted to getting the felt finished that afternoon. We controlled ourselves, and limited things to just the essentials. In particular, we felt more definition was needed for the stones of the cairn, the main standing stone needed a shadowed edge and the riverbank needed some further detailing.



As the banner has to stand the test of time we wanted to make sure the neddlefelted detail was fully felted so we spread out the bubblewrap again, wet down the felt once more and gave the piece a final rub, turning over half way through to rub from the front.





The final process is milling. This involves rolling the felt in bamboo mats which squeezes out the water, shrinks the wool fibres and tightens them up against each other, making a very strong piece of fabric.



This part is quite physical work but as there were 10 of us, we were able to work in teams with people getting rests in between.

Teams 1 and 2 were just two people in each. They rolled the felt back and forth first from one end of the table and then the other to a count of 100.



Teams 3 and 4 required 4 people in each. This time the felt was rolled first from one long side of the table then the other, again both to a count of 100. As people were different heights and different arm lengths we had some pauses while the felt was straightened and re-rolled. Each time we un-rolled we could see the felt had shrunk in the direction of the roll.



Finally we were finished and able to stand back and admire the results of our day's work.

I had to take the felt home and rinse out all the soap. Because of the size of the piece, this is easiest done in a bath.

It took several fills of hot water, tramping up and down in bare feet as though I was treading grapes. The hot water shrinks the fibres further, tightening up the felt and reducing the air spaces between the fibres. This makes it increasingly difficult to wet the felt between each rinse.

Eventually there were no more soap bubbles and I was able to squeeze out as much water as I could and leave the piece to drip-dry.

Finishing Touches.

Once the felt was dry there were some finishing touches to be done.

First of all, I stitched a fabric strip onto the back so that a hanging rod could be inserted. This has a strip of Velcro on it as well, so that if permanent display is needed, the corresponding prickly side can be stuck onto a wooden baton and screwed to a wall.

I then handed the felt over to Mary Harrison for some extra detailing on the NADFAS logo to be done in embroidery. The blue and white fibres in the felt had merged a bit too much, so Mary used a fine chain stitch to give better definition.



Pictured above:
The logo before being embroidered.

We also wanted to acknowledge those who had worked on the felt so it was decided she should embroider everyone's initials onto the standing stone. There is some precedent for this as a visit to the Clava Cairns site reveals lots of initials carved into tree-trunks.

Pictured right :
The completely finished banner.

Pictured on back cover:

The group with the banner at the end of the day.





This was what we achieved on Thursday 28th May, 2015, starting with nothing more than bits of fluffy wool, a few photographs and lots of enthusiasm.

From left to right :

Mary Harrison, Erin Hall-Gardiner, Gillian Hibbert, Penny Evennett, Ellen Maxwell, Krissie Byng, Rosanna Clegg, Hilma Rask, Debbie Owen and Ruth Black