

Water as Community Resource 12 – 14 June 2015



River Aline, June 2015 Photo: Jason Pennells

This was the ninth residential gathering organized by the Andrew Raven Trust held at Ardtornish Estate, Morvern, North Argyll.

The Trust's previous weekend themes, all under the broad heading of topics of importance to sustainable rural development, had been:

Carbon and Land Use; Sustainable Affordable Rural Housing; Vital Communities; Owning Land for Good?; Paths; Shared Space; Flourishing Childhood and Food.

Each year a theme has evolved in response to three things in particular:

- An important challenge that came to light in the previous weekend that merited further exploration
- Awareness of any new activities and challenges in Morvern

- Suggestions from the Trustees and a wider network of advisors including the Raven family

Water, as a theme, was partly chosen through this route. The 2014 weekend, co-organised by trustees Maggie Gill and Sally Thomas on the topic of *What is the impact of how we consume food in Scotland?* had focused attention on the ways in which we manage our vital resources and water, one way or another – the sea and fish farming; water used in food production – had come clearly into view.

There is also a plan being forged, as the Trust heads towards its tenth weekend next year, to create an edited volume of some of the talks, writing and reflections from the different weekends. Discussions on the best way of doing this are underway with Adam Nicolson, one of our supporters and the scribe of the first two weekends. Thinking of the shape of this, the topic of water seemed wrongly absent.

Water is of course very present in Morvern. Annual rainfall is around 100 inches per year and the peninsula has many hill lochs; rivers; and is surrounded by the sea. This abundance of water resource has stimulated a wide range of local activities.

For example, in recent years there has been significant local investment in small scale Hydro Electricity generating schemes. Examples are the 700 kW Loch Tearnait and 1.5 mW Rannoch schemes commissioned by Ardtornish Estate, which also generate £ 10,000/annum for the Morvern community, following Highland Council's recommended community benefit of £ 5,000 per installed megaWatt for renewable schemes. This year saw the completion of the Abhainn Shalachain scheme commissioned by Green Highland Renewables and a further x mW scheme at Uileann is nearing completion commissioned by Ardtornish. Long term Morvern resident, and Hydro

Consultant to Ardtornish, Angus Robertson, gave the first of the weekend talks about this resource: you can see his presentation [here](#).



View of Tearnait Hydro Engineering with Angus Robertson and Angus Macdonald photo: Jason Pennells

The talk was memorable for the proof it gave of the benefits accrued, at local community level, by intelligent linking of government policy; local and technical knowledge through time (25 years in the case of Ardtornish and Hydro) and people focused ethical investment. A starring role was also given to a 21kg plastic water carrier, filled with 21 litres of water, which acted as a very heavy prop to encourage all to think a little more about the miracle of engineering that allows water to be turned into energy in this way.

Professor Angus MacDonald, formerly Head of the School of Architecture at Edinburgh University gave a further example of the creative engineer, a figure who re-appeared several times through the weekend. His talk on husbanding water resource for community benefit took us back in time to the history of Edinburgh's water supply. Unlike Glasgow, who harnessed the resources of 50 million gallons of Loch Katrine so successfully in 1859, that the same system largely persists to provide the city's drinking water today, Edinburgh's

story was one of '*disease, taxes and legal costs*'. Various landowners on whose land sat suitable lochs resisted the scientific evidence about the vital importance of clean water to the growing city: a city riven by cholera epidemics and regular water shortages, throughout the early 19th century. An example given was a long legal case between the City and a certain Mr. Trotter of Mortonhall in connection to the water supply from what is now Gladhouse reservoir. A wood planted in the shape of T, for Trotter, can still be seen on the hill nearby, apparently planted by the aggrieved landowner. Arguments over water are not new it seems.



Corran Ferry, June 2015 photo: Jason Pennells

Morvern's relationship with its other great body of water, the sea has always been critical: for transport, food, communication. In recent years, the sea has become a vital part of the local economy in different ways. One route has been through growth in recreational activities such as sailing and diving. Informal observations in Morvern throughout summer 2006 had shown local researchers that there were an average of 19 visiting vessels entering Lochaline every day during this period. Using an estimate of 3 persons per visiting boat this equated to almost 7000 visits during the main summer months: a significant influx into a resident community of just 300. In 2012 Trust participants had viewed the results of the local response to this research, as they were shown round the 24 berth Cala Loch Àlainn pontoons,

a short walk from the village on the West side of Loch Aline, and installed with the help of funds raised through the Morvern Community Development Company. <http://www.morvern.org/development/past-projects/pontoons/>

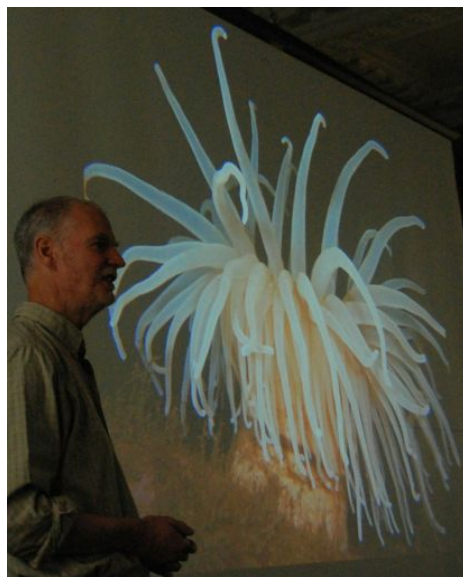


Lochaline pontoons © MCDC

The Lochaline Dive Centre (<http://www.lochalinedivecentre.co.uk>.) was first established by the Lamont family in the 1980s before being bought and developed by Philip Robertson in 1996, following a research project with the University of St. Andrews. Philip, who is now Deputy Head of Scheduling Marine and Battlefields with Historic Scotland gave a reflection on Sunday morning on the changes he has witnessed around awareness, and protection of, marine cultural environments, aided by both university research

and growing numbers of recreational divers interested in the rich natural and cultural underwater worlds of places like the Sound of Mull. The Centre, now run by Mark and Annabel Lawrence, hosted one of the Trust's Saturday afternoon activities : 12 participants were able to go aboard the Sound Diver vessel with the Lawrences and Seasearch's West of Scotland co-ordinator Owen Paisley. Sea eagles, seals and otters were all spotted by those on board. However, Owen reminded us, the following day, of all the wonderful, strange and active lifeforms deep under the surface of the sea, mostly unseen by humans, which give it life and help keep it clean. Seasearch is a valuable citizen science project: a volunteer underwater survey project for divers who wish to contribute to conserving the marine environment.

<http://www.seasearch.org.uk>



Owen Paisley showing a picture taken at about 25 m under Loch Fyne of a Deeplet sea anemone or *Bolocera tuedia*, one of our largest anemones, up to 30cm across
photo: Jason Pennells

Marine conservation was a live topic over the weekend. Kerri Whiteside gave us an introduction to her work as Scottish Community Support Officer for global conservation charity Flora and Fauna International, partly funded through the Blue Marine Foundation

<http://www.blumarinefoundation.com/projects>. The aim is to find better ways of looking after the marine environment by supporting the designation of

Marine Protected Areas in Scotland. Kerri's role is to work closely with local coastal communities to understand the impacts of such designations and to link community held marine knowledge and livelihoods with policy makers in Holyrood. Her presentation focused on the locally significant Loch Sunart and Loch Sunart to Sound of Jura areas. Further information on these designations can be found here:

www.gov.scot/Topics/marine/marine-environment/mpanetwork.

A particular problem in the Sound of Mull has been the industrial dredging for popular shellfish such as scallops. This not only destructively disturbs the active underwater life that balance marine ecosystems, described by Owen, but also undermines long term economic viability of coastal communities since, as a practice, it is characterized by *grab and go* rather than sustainable husbandry.

Kerri gave us a practical example of restoration and better management of marine environments, highlighting the twenty-eight year journey of the Community of Arran Seabed Trust (COAST – rarely a better acronym). Following a thirteen year campaign spearheaded by local diver Howard Wood COAST achieved a no take zone in Lamlash Bay in 2008. Monitoring the subsequent changes, COAST have reported the seabed is now 40 per cent more complex and healthier than the area outside the NTZ. There are higher densities of scallops, crabs and lobsters, both older and larger, being recorded and increased numbers of juvenile cod and haddock. Kerri acknowledged the significance of COAST's work to her own and we were delighted that Howard joined us at Ardtornish for the weekend and warmly congratulate him on his recently awarded OBE.

<http://www.arrancoast.com/campaigns/lamlash-bay-no-take-zone>.

The delicate balance between human economies and living ecologies came up consistently as we heard different perspectives on water resources. Dr. Stephanie Merry, a marine engineer who runs her own company, Focus

Offshore Ltd, and is advisor to the Marine Renewables sector, joined us from Southampton to give a succinct overview of the status of marine energy in UK, within which Scotland is such an active participant.

Dr. Merry highlighted that the UK is a world leader in researching ways of generating energy in this form, with 50% of Europe's tidal energy resource and 30% of wave energy resource occurring in UK waters. We were shown a variety of vast metal structures, built by creative engineers, ranging in appearance from shore crabs to moonwalkers, all of which were testing the predicted possibilities of 3 -4 mW of energy generation from our seas with it associated 2,100 jobs by 2020 and £ 900 m by 2030.

The economic possibilities were clear, but despite the huge research investment, Dr. Merry was concerned about the future: 2014 had seen several investments shrivelling with the receivership of Scotland's Pelamis wave power and Siemens pulling out of MCT investments. Seas are hostile environments for manmade structures (one of the reason divers are drawn to the Sound of Mull is the prevalence of shipwrecks) and investment can be precarious. Long term government investment is crucial, as evidenced by the MeyGen tidal project located between Stroma and the NE tip of Scotland. Smaller scale structures such as the 250 kw floating cylindrical tube being developed by Orkney based Scotrenewables were being effectively explored.



Scotrenewables floating cylinder

Another perspective on ways of productively managing marine resource for local benefit was provided by a paper presented, in absentia, by Denis Overton, Chair of Ardtornish Estate and Director of Aquascot in Alness: Scotland's only certified organic fish farm. Fish farming has been an active component of Ardtornish and Morvern life for some years and last year's Trust weekend heard about the entrepreneurial Loch Fyne story from Christina Noble. Denis's talk raised the question of 'What happens next?' in the farming of salmon: production of farmed salmon accounts for £ 700 - £ 750 million retail value – Scotland's largest food export, by value and has provided vital jobs in Highland communities. Its sustainable management matters.

Yet, there has been controversy on the environmental health impacts of farming on sea-bed communities: the build up of detritus under cages; the chemicals used to contain sea lice. Improvements have been made however: wrasse are deployed at farms to feed on the lice; husbandry has matured as knowledge has built. A new future should include government incentives to encourage smaller scale fish farmers in coastal communities to take control of their own immediate environment: ownership is currently consolidated to 10 publicly quoted companies producing 95% of the Scottish harvest. The refrain of more smaller scale and local enterprise echoed through many presentations.

The global picture was framed by a pair of sobering talks on Saturday morning by former Director of the London Met Office Alex Hill and political journalist James Fergusson. These left Trust participants in no doubt about the dangers posed by careless disregard for water resources worldwide. Fellow Trustee Angus Hardie summarises Fergusson's talk on global water conflict. Hill, in his talk, *Ugly Bags of Mostly Water (an alien describes a human in a memorable quote from the sci fi series Star Trek)* gave a lively

presentation on the science of water – the strange chemical capacities of H₂O– both within our bodies and the wider environment and pointed to its incredible scarcity in relation to other elements.

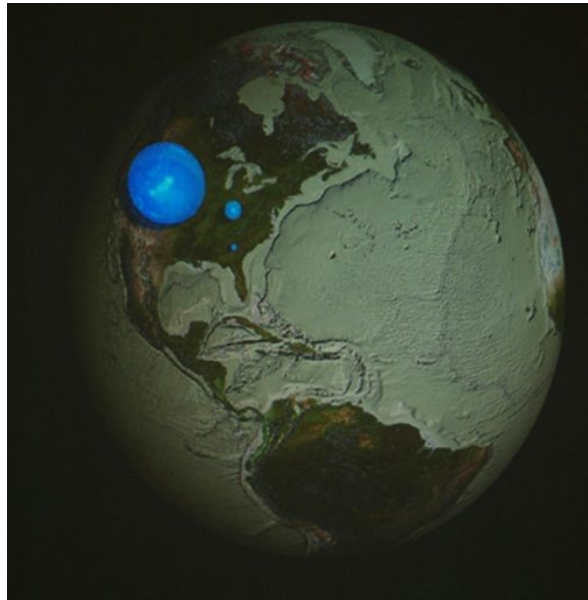


Image of Earth showing relationship of water resources: large circle sea; tiny dot drinking water

© Alex Hill photo: Jason Pennells

We were also introduced to one vital water source, cloud formations. Clouds aren't always benign however: *lenticular cumulo nimbus* although poetic in name and appearance, forming shadows around mountain peaks, causes such violent down drafts that aeroplanes can be slammed to the ground. Hill also showed graphs of the shifting patterns of weather, caused by climate change: shifts made more evident through the advancing data capture capabilities of the Met Office. Weather extremes are set to intensify: floods and droughts. 250 million environmental refugees are predicted by the year 2050. Images of the Mediterranean migrant boats were clear and chilling.

The interconnectedness of water flows with all forms of life was given full expression not only in this human socio-political environment but in a series of talks touching on all living relationships within the rich biodiverse

environments of river catchments. The subject was introduced by Dr. Patricia MacDonald, through her talk *Moving Water: Water, Environment and Living*. Patricia's background as both artist and scientist gives her perception particular acuity: she is a researcher and academic in environmental history, perception and iconography, with a background in both biology and visual art.

Patricia focused on the vital role of woodland and diverse animal species in creating good river flows. Less deer, more trees was one message. There are currently 400,000 deer in Scotland: 50,000 is thought to be the optimum for environmental balance. Trees stabilize river banks and hold water. The re-introduction of wolves at Yellowstone national park led to new understanding, in scientific circles, of the impact of a chain of animal life or 'trophic cascades' on water resources. George Monbiot's TED video was shared, despite connectivity challenges in the cyber world. We are interconnected in many ways but Morvern data still travels along slow lines! <http://blog.ted.com/video-how-wolves-can-alter-the-course-of-rivers>.

This theme was developed in a presentation from Dee River Trust manager Dr. Lorraine Hawkins a fish scientist. Hawkins gave an encouraging focus on how different interest groups (farmers, foresters, canoeists, anglers for example) can be persuaded to co-habit well, to build sustainable environments, by spending time on working out how, aided by a wider strategic structures to facilitate and fund the time to do that. Tree planting in upper catchments was one example : important as leaf litter from deciduous trees in the autumn provides nutrients for invertebrates which provide food for fish - another water version of *trophic cascade*. Funding can be critical to start the process, as the Dee River Trust tree planting programme highlighted. Their work in this area is supported by European funding through the Pearls in Peril project. Because of the River Dee pearl mussels dependency upon salmon, the tree planting ticks the box for both species. The interconnectedness of things was well described in economic as well as

ecological flows.



River Dee © Dee River Trust

The theme of how people participate, develop and share knowledge was picked up in a fascinating summary of research undertaken by Kerry Waylen from the Social, Economic and Geographical Sciences Group at the James Hutton Institute showing an ecosystems approach to governance. Two points resonated: small practical ideas can make a big difference; and the use of language matters (a detailed field study of four years of transcripts of minutes of meetings and reports taking EU Policy directives on catchment management to practical conclusions was described). A diagram on the relationship between the words effective and efficient was telling.

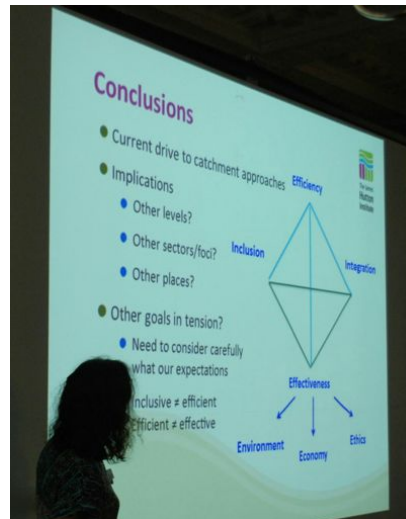


photo: Jason Pennells

The relationship between language and vital communities had been a strong focus from the outset of the weekend, following an extraordinary presentation by the poet Katrina Porteous introduced by Professor Nigel Leask from Glasgow University after supper on the Friday night.

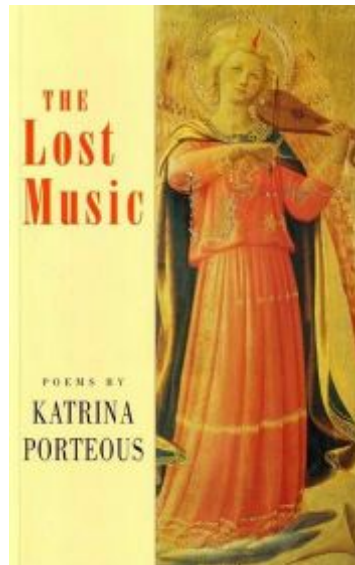
<http://www.katrinaporteous.co.uk>. Porteous has lived in a small community on the Northumbrian coast since 1987 and has been actively involved in showing the vital connections between people, natural environment and place through her study of local history; oral speech and dialects brought together in the rhythms and sounds of her poetry. Her first poetry collection, *The Lost Music* was published by Bloodaxe Books, 1996 and since then she has collaborated widely with artists and musicians with an active part of her work being channeled through BBC Radio with producer Julian May. A recent collection *Two Countries* was published in 2014.



Photo of the coble Jacqueline © jardine press

In her reading of poems and reflecting on their particular context, Katrina invited all participants into an active relationship with another marine community through their language and their objects. As well as the music of the words, orchestrated through her poetic voice, we also learnt about the 'coble' a locally distinct form of fishing boat: open, clinker built which had persisted from the 14th to the 20th century as a practical thing in Northumberland. More efficient boats with more powerful engines had then superseded it. The word efficient came into focus: the impact of that on the intimate sustaining relationship between people and environment was given voice through the coble.

As the poet states in the introduction to *Two Countries* '*the disappearance of the coble marks the end, not just of a beautiful object, but of a whole network of relations between people and their environment*'. This is a network of relations that the work of COAST, Flora and Fauna International, Aquascot, Dee River Trust, Seasearch, Ardtornish and MDCDC amongst many others are trying to re-establish. Poets show us, above all others, how careful construction of language offers critical understanding of those networks of relations and the shared human experience inherent in them.



Cover image © Bloodaxe Books

The word network itself has a particular force etymologically showing its connections to material origins of fishing. Katrina introduced us to two other creative networks: the fisher poets of Oregon, USA, <http://www.fisherpoets.org>. Her recording of these voices can be heard here <http://www.bbc.co.uk/programmes/p01ybh4g/p01ybg3w>. The UK based New Networks for Nature <http://www.newnetworksfornature.org.uk> is finding similar ways of linking voices of different artists and scientists with deep interests in community and voice.

The vital role of music in giving voice to shared networks of place and people was introduced to us on Saturday tea time through a thoughtful presentation with film by musician Inge Thomson. She described the sound and peoples of her musical communities in her native Fair Isle rooted in deep sense of living captured in her cd of music Da Fishing Hands <http://www.ingethomson.com>. This was brought further into focus on Saturday night through a performance by Burach, the local community Gaelic choir, formed and led by dynamic Mull resident Riona Whyte including a participatory moment, singing Bàta Smùid' steam boat., which led naturally into a communal playing session when part time musicians from the Scottish Government; James Hutton Institute and Glasgow University picked up fiddles, pipes and flutes to join in A particular

highlight were two solo Gaelic song spots from 7 year old local star, Verity Lawrence.

Other reflections on the weekend and its currents are being explored in another blog by ART trustee Annie McKee, following her 'four corner' flipchart presentation focusing on four particular streams of thought framed by the words culture, economy, environment and energy.



photo: Jason Pennells

At the end of the weekend, most left with a deepened sense of the preciousness of our water resource and the vital role it plays in flourishing communities, and how misuse of it can damage the same communities, globally. The presence of a diverse and intergenerational mix of forty participants at the weekend, created dialogue between generations, and across areas of specialist practice: an important link to understanding how things can work. Voices, languages and networks were echoing from the worlds of science, poetry and song, opening doors on other ways of understanding all resources including human life and knowledge. The poetry, as well as the practicality, of living, gave critical voice to that. Warm thanks to all who participated and made the weekend so truly memorable.

Amanda Raven, Chair, Andrew Raven Trust