

SA Field Trip 2021 – Jim Holdsworth (DSWAA Acting President)



It's not often one spends a Saturday morning scrambling up a slope in a slate quarry to hear the quarryman explain the finer details of how to select which part of the quarry face to attack next. The view of folded and uplifted strata of varying colours tells a story of how this part of the Adelaide Hills were formed and how they evolved. By 1870s 20,000 slate tiles were shipped out of Port Willunga per week, much of this load bound for Melbourne. However the quality proved inferior to what could be imported from Wales; along with corrugated iron, this led to the ultimate collapse of the slate tile industry at Willunga.

This issue

Out of the fog

Mud mortar

On-farm custodianship

After the storm

'The Henge'

Dry stone steps

Insurance

Certification

Choose your chisel

Just down the hill is a large dry stone culvert over a stream. Here, and later along a rural roadside, we see narrow slabs of slate used as fence posts; holes drilled through these elegant slabs carry taught wires. Curious. Fascinating.

Within walking distance we come to Rod Dowie's retreat (*TFS #49*) with extensive dry stone landscaping elements in the grounds of his restored 1840s miner's cottage.

Under venerable gums in the well-tended grounds of the former Willunga courthouse and the Slate Museum we're given a brief history of the place and a light lunch before wandering into the former stables out the back and learning more about the role that slate has played in the local history for over 180 years.

Local heritage architect and historian Richard Woods welcomes us to his weekend hideaway; once the chapel for the nearby Delabole quarry, in its heyday the busiest

SA Field Trip 2021 – cont.



slate quarry in South Australia. Slabs of slate pave the elevated entry to this faithfully restored building, a quiet spot for contemplation, commanding views all the way to Mt Lofty and a mob of ‘roos on the hill opposite the chapel.

Aldinga Arts Eco-Village is all the better for the dry stone craftsmanship of resident and Flag Stone editor, Bruce. Beautiful work, clearly much appreciated by fellow villagers. The output of the community wood-fired pizza oven, a local red or two and an engaging talk by Phil Harris, architect and director of Troppo Architects, round out Day One.

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It's not often one spends Sunday morning bussed down dusty roads to Highland Valley Station (right), a gem of a property nestled in a deep valley among rocky hillsides. After welcomes and a background briefing from the owners, we disperse to admire long stretches of loved and functional dry stone walls.

On Red Creek Road we wonder at what life was like in the small settlement which is now just a collection of collapsing stone buildings, some dry stone, in a sheep paddock beside a creek whose sides are red. The old Post Office evokes memories of those days when this back road was the highway to Melbourne.

Behind the charming sandstone Salem Lutheran Church is an unimpressive hall within which the ladies of the parish hand out impressive sandwiches with gloved hands and tongs. Rousing applause confirms the quality of their morning's work.

Just out of Strathalbyn, Clynt Johansen shows us walls dating back to the 1870s, some in excellent condition but inevitably needing attention. This issue resonates with Jane Boot's emerging project exploring how farmers can be assisted with this huge but important task.



Up on a long ridge we scan the rolling pastures at Blackwood Park (left) for the eight kilometres of dry stone walls that farmer Will MacDonald tells us about. Many of these walls – Galloway, Feiden and crochet – clearly show the influence of early Irish wallers. Will is a proud custodian of those walls; essential parts of local heritage and intrinsic elements of a sweeping vista.

Before we're herded back onto the buses, we thank Bruce and Kristin. Actually, we can't thank them enough. More than 60 enthusiasts attended one or both of the two days. We should have been here twelve months ago, when the Salem ladies could have dispensed with tongs. Better late than never.

Field trip – Day 1 – *Lyn Allison (DSWAA Committee) et al*



Ken McAllen at Martin's quarry



*Next gen
waller*



Quarry Rd ds culvert rebuilt by Dowie Boys



DS culvert rebuilt by Rod Dowie



Terraces by Rod Dowie and Rick Wheatley



Slate tank

Slate museum



Field trip – day 1 cont.



Delabole chapel; ds work by Doug March



Originally one mile of slate fence posts built 1878 - the transition from ds to post'n wire!



Looking to where the sun will set on 21 June



DS arched bridge in Aldinga Arts-eco village, built from basalt setts salvaged from Gepps Cross saleyards



Phil Harris: "If stones could talk, what would they say of a grain of sand?"

Field Trip – Day 2 – *Lyn Allison (DSWAA Committee) et al*



Repaired section of well-maintained wall across drainage line on Highland Valley Station.



Red Creek barn (above)



Two different builders? (Left)



Old orchard walled off from stock – Salem Rd



Repairs - Wheal Ellen Rd

Field Trip – Day 2 cont.



Fine walling 150 years old on Katoomba



An Irish touch on Katoomba (Strathalbyn)



*Will MacDonald (r)
Blackwood Park*

Some of Blackwood Park's 8km of dry stone walls

As the fog clears *Jim Holdsworth (Acting President DSWAA)*



There are many reasons why we should look forward. While my 2020 calendar ticked over at the unflinchingly regular rate of one day every twenty-four hours, it felt like time stood still (at least in Victoria) for many months until we emerged from a fog that had blanketed

normal life. Now, with only the occasional threat of gloom, we can anticipate a regeneration of activity, of spirit and of optimism.

Our Annual General Meeting in 2020 saw new faces elected to the Committee, in particular Laurie Atkins as President. Until his resignation in March Laurie led the Association carefully and assuredly, Committee meetings being conducted by the inadequate but necessary means of online get-togethers. One positive aspect was that Committee members spread across four States could to join in without the need to travel and largely that mechanism worked effectively.

As Acting President I have pursued the path Laurie guided us on and, as the Committee nears the end of its year, our Agenda looks both broad and exciting.

Our membership has an impressive wealth of skills, interests and capabilities and here are two projects that I hope you will contribute to.

Committee member Jane Boot has tapped into the resource that is our membership, seeking active participation of people interested in the maintenance of dry stone walls and the skills inherent in that task. I have great confidence that Jane's initiative will evolve into an effective arm of the Association with a very practical purpose. If interested, you can email [Jane](#).

The City of Whittlesea, on Melbourne's northern outskirts, has many dry stone paddock walls and stockyards across a rolling landscape that is slowly becoming urbanised. This pro-active local government is developing an App to facilitate the in-field survey of dry stone walls and their entry to an electronic database. The Association has been offered a spin-off version of that App to be used by relatively untrained 'citizen surveyors'. This is a very exciting development and one where DSWAA members, as well as other like-minded groups and organisations, can download the App and become the front line troops in a broad survey of dry stone walls and structures. When the software and the App are operational, we'll be asking you to get involved.

Do join us, either as a Committee member or by offering your skills and enthusiasm to projects such as these. As the fog clears, there's plenty of sunlight beaming down on the Association.

Annual General Meeting, Lunch and Field Trip

Members are invited to attend the Association's **2021 Annual General Meeting**

The AGM will include the presentation of the Annual Report and Financial Statement and election of President and Committee for the coming year. The Meeting will be followed by lunch, with guest speaker local dry stone waller Alistair Tune who will talk of his early career under the tutelage of one of the district's eminent wallers, Bill Harlock.

Following lunch, Alistair will take us on a tour of some local dry stone walls and structures, including some constructed by Bill Harlock (right) and his team.

DATE: Saturday 10 July

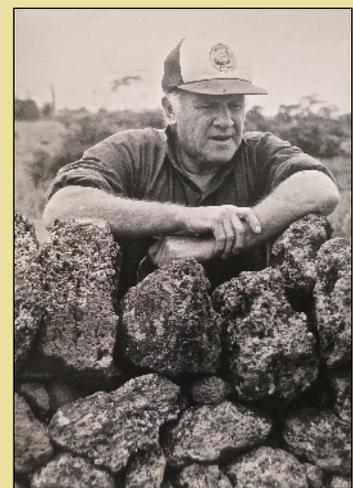
VENUE: to be confirmed, but in Camperdown, Victoria

ATTENDANCE BY ZOOM: members not in attendance will be able to join the AGM by Zoom, and to vote in the election of Committee and President.

TIME: Commencing at 11.00am, with the tour concluding around 4.00pm.

COST: There is no charge for members to attend the AGM, lunch or tour.

Further details, including the procedure for nominations and voting for the 2021 – 2022 Committee and President, will be circulated shortly.



Mud mortar – *Bruce Munday*



Red Creek is a usually-dry watercourse in the eastern Mt Lofty Ranges. The ruins of the old Red Creek Post Office (north of the creek) and homestead were a stop-off on day-2 of the recent SA field trip. At first glance from the road these ruins might not seem to have much of interest in the way of dry stone construction. A couple of smaller out buildings (possibly a storage shed and an animal pen) are certainly dry stone, but the house, post office and what appears to be a barn might give a first impression of lime or cement mortar.



Red Creek Post Office

On closer inspection we see that all of these structures actually used nothing but mud for mortar – red mud, the same colour as the parent rock material.

The homestead is deceptive as the inside walls were plastered and the outside rendered, a significant amount of these finishes remaining, but within the walls was just stone and mud.



Two 'genuinely' dry stone walls

Mud mortar – cont.



Cross section revealing mud mortar



The barn (if that it was) is of particular interest. The outer walls (above) have had a thin render, perhaps little more than a lime wash, to keep the weather out, but most of this has peeled off. The inside walls (below) were not plastered and when the roof was lost the mud mortar began to erode away, now looking to the casual observer like dry stone. That so much of these walls are still intact is testimony to the skill of the builders, the load borne through stone-on-stone contact rather than floating on mud. As waller Doug March put it: 'They built these walls as if they were dry stone.'



It would be interesting to revisit this site in say another 100 years – I suspect that much of it will still be standing.

Ferries Family Home

The Red Creek homestead was originally built by the Ferries family.

James Ferries (1813-1875) arrived from Aboyne, Scotland in the 1850s as a paying passenger with his wife Helen and son James. In 1856 he met George Williams at a stock sale in Adelaide. The two families joined forces in 1857 and took a bullock dray over the Mt Lofty Ranges to where James selected Section 1266 (81 acres) on Tin Pot Creek which he renamed Red Creek on account of the red soil of its banks.

James Ferries Snr died suddenly of a heart attack in 1875 and his wife a few years later. Their grandson (yet another James) became a distinguished artist, a Fellow of the Society of Arts, two of his works hanging in the Art Gallery of SA.

When James III died in 1951, money left to the Field Naturalists was used to buy land to extend the 880 ha Ferries MacDonald Conservation Park bearing his name.

The Rises and Falls of Dry Stone Walls Custodianship (or the trials and tribulations, delights and despairs of owning and managing dry stone walls) – Jane Boot (DSWAA Committee)



Picture this...the sun setting over an old moss- and lichen-covered paddock dry stone wall, glass of wine in hand. What could be better? All is well in the world.

That night there's a storm. In the morning a huge old tree has blown over and now lies horizontally smashed through that same dry stone wall. An entire mob of 1000 sheep or 100 cattle or 10 kangaroos or all 3 have then en masse taken a shortcut across the broken section, destroying it further. Despair! Does our insurance cover this? What to do?

These are both common scenarios for rural property owners who are fortunate enough to have stone walls on their property.

We purchased a 3000ac farm in western Victoria in the Victorian Volcanic Plains (VVP) 13 years ago. Everything was run down from the big old bluestone homestead, the 12-stand shearing shed, shearers' quarters, single man's quarters, blacksmith's shed, all the original wire netting fences and of course the approximately 8km of dry stone walls. The previous owners lived on a neighbouring farm and our homestead was only used occasionally as a weekender from Melbourne. Their own original homestead and historic gardens and stone walls were immaculate but ours were far from it.

Our problem

Some dry stone walls had survived relatively intact, others were barely discernible vague lines across a paddock consisting of a remnant haphazard single course of stones.

Fortunately the property had been predominantly grazing country with little broadacre cropping, so paddocks had not been cleared of remnant walls, stone gateways widened to allow large machinery access or entire walls bulldozed, deemed in the way of arable land.

However where some walls had once stood there were now just piles of stones. These walls were at one stage seen as perfect rabbit harbour and were therefore bulldozed to destroy the rabbits and their warrens. Descendants of those rabbits now made their new homes in abundance under the same piles of discarded stones. Apparently the rabbits were more logical and resourceful than the farmers/humans.

The popularity of planting generally monoculture pines or cyprus hedging or sugar gums some decades ago served to provide years of firewood and/or windbreak shelter for stock as well as native animals. This was especially so on the VVP which were historically sparsely

Rises and Falls – cont.

vegetated windswept plains with stunted shrubs and small trees. However those large tree plantations when situated near a stone wall often resulted in direct or indirect damage to these walls. Stock camping and seeking shelter amongst the trees would also shelter next to the wall and cattle love to rub on rough walls, as do sheep if they have lice. Due to their size and weight cattle are notorious for damaging walls by dislodging the top coping stone. Then more. Tree limbs or entire trees can topple onto the walls either during felling or storms. Tree roots tunnel under walls, undermining their structural integrity from below so that the wall sinks, bows, spreads laterally and loses its hearting stone and eventually collapses.



Roots and falling limbs from old cyprus plantation

Our stone walls and fencing were in bad shape with barely a stockproof paddock to be had. These walls were built when small merinos were the predominant breed, but were unsuited to subsequent larger/taller crossbreds prone to jumping or to cattle. Some walls had had a plain wire or ringlock fence erected next to them in later years which offered some protection, others with gaping holes had a ringlock patch or an old gate across the gap; most had neither.

Deciding where to start was daunting. We were not cashed-up folk with city money and it was not a lifestyle/hobby farm with off-farm income. It was a working farm which had to generate an income and most income was ploughed straight back into day-to-day expenses.

Bring in help

With some cultural heritage conservation knowledge, an 1840s house renovation and involvement with the National Trust in Tasmania I launched into phone calls to

various bodies to assess what heritage overlays, requirements and restrictions were in place and whether there was any financial or practical assistance available. These included the local Shire, Heritage Victoria, the local Historical Society, National Trust and DSWAA. All bodies were sympathetic to our cause and supportive in spirit but in the main unable to help us further than recommending professional dry stone wallers. All these wallers came highly recommended but given the extent of and condition of our walls, the fact that they are predominantly utilitarian paddock fences rather than aesthetic domestic/garden structures and the time-consuming nature of walling, using professionals was sadly not in our budget.

Fortunately Heritage Victoria was able to point us to Heritagecare, a partnership scheme between Heritage Victoria and Conservation Volunteers Australia (CVA) which was funded by the Victorian government. Sadly it no longer exists. It's aim was to assist owners, managers and custodians to manage important heritage places, objects and collections through volunteer participation. We applied for and were successful in a Community Stewardship project twice over 2 consecutive years in 2008-09 and in 2010. CVA advertised and recruited interested volunteers who undertook a one-day on-farm practical training workshop in DSW techniques run by professional wallers David Long for the first project and Alistair Tune for the second project. Those interested in continuing beyond that spent 2 days a week over 6 months as a group repairing and rebuilding walls on the farm. Generally there were 10-12 people at the training day with 4-5 committing to continue beyond that.



Training day with David Long

Rises and Falls – cont.

On our own



There was no professional supervision or help after the initial training day and only one volunteer, a local professional waller, had any prior experience, so it was very much a case of learning by our mistakes and from each other.

Where complete rebuilds were required 4-5 of us averaged a total of approximately 3m/day. This might not sound a lot but as with a lot of jobs (think house painting) much of the work lay in prep. It involved clearing the site down to a stable wall level, collecting existing stone from the area, often half buried, collecting appropriate stone from other areas of the farm and sorting into building stone, capping stones and hearting stone, and sledgehammering larger stone into hearting stone. Strangely enough you can never find enough



Ready for copes

existing stone at the site of a damaged section of wall and as a rule of thumb a wall generally uses twice as much stone as you estimate. With walls approximately 1m high and 0.5m thick it required half a tonne of stone per linear metre.

Over the first 6-month project in 2008-09 our 4 volunteers and I surveyed 922m of stone walls, completely rebuilt 205m (requiring 100t stone) and repaired 73m (requiring 20t of stone). Our second 6-month project in 2010 surveyed 680m of walls, completely rebuilt 176m and repaired 230m of walls using approximately 150t of stone in all.

The work was quite heavy and physical but there were jobs suited to all physical abilities and skills and it was enjoyable and very rewarding. Over the summer months it was often hot and dusty (climatically the Ballarat area is supposedly temperate but there is nothing temperate about a Ballarat summer or a Ballarat winter!) with flies and the occasional snake. The worst experience for us would have to have been completely rebuilding a 4m section of wall only to have a large tree fall onto it some weeks later meaning another major repair. Nothing like repetition to perfect your skills! Despite the sore backs and a few squashed fingers and toes we had many laughs and made lasting friendships and from this 3 of us subsequently joined the DSWAA.



The loyal team of ongoing CVA volunteers

A bright future

Stone walls can be high maintenance but they offer some advantages over the modern wire fence. They consume large amounts of freely available paddock stone which would otherwise simply be piled up, and with care do not deteriorate. They provide shelter from wind and rain for stock, especially newly shorn sheep and young lambs which can be lifesaving in wet and windy plains country. They also provide a very effective fire break which we experienced during a bad summer grass fire some years ago.

Rises and Falls – cont.

But they do require ongoing protection from the elements, from stock and from machinery and vehicle impact. Most of all they need the recognition and appreciation of and protection by rural landowners. Whilst most such landowners have the best intentions the reality is that for many their walls are not a priority financially or practically.

To this end the DSWAA has recently started up a new working group which I will be involved in organising. I have always felt that there is a wealth of valuable expertise and enthusiasm amongst our members and many who would sometimes like to get their hands dirty and that to harness these skills and assist landowners with both practical information and physical help would provide a win-win outcome for all. The group is open to any members who are interested in the practical aspects and/or hands-on side of dry stone walling. This might include but not be limited to landowners, professional and amateur members whose walling experience may be considerable, through to complete novices, people with experience in heritage organisations, funding, grants etc. There would be some overlap with areas the association is already involved in. It aims to be a very inclusive and enjoyable group which would help each other improve practical walling skills, restore walls, map and record dry stone walls/structures, and share ideas and experiences.

We could also address issues surrounding dry stone walls and structures (including indigenous) such as custodianship, laws, heritage overlays, practical protection, funding for restoration and preservation, insurance, etc. To date we have 14 interested members spanning 5 states. I would invite others who may be interested to join at any time as our aim is to get a broad a range of skills, experience and interests. Please just contact [DSWAA](#) or [email me](#) directly. We hope to start communicating with interested members soon. Our first task will be to determine a catchy name for the group and ideas for future direction. I hope this group will be very member-driven, practical, relevant and enjoyable.



Meantime back to my chilled glass of wine watching the sunset over one of our currently intact stone walls.

Repaired wall with barb and top hotwire (below)



St Mary's Garden, Penola – Barry Mulligan (DSWAA member)

The damage to and repair of dry stone walls from a storm in 2017



St Mary's Vineyard is owned by the Mulligan family who have been a part of the Penola/Coonawarra community since 1905 and is situated 15 kilometres west of the township of Penola in the Limestone Coast, South Australia. All of the dry stone walling and structures created throughout the property since 1985 have all been built by the Mulligan family members Barry, Glenys, Ian and Robin using stone sourced from a quarry on St Marys Vineyard.

Around 3pm on the 30th November 2017 we noticed an isolated cloud system approaching St Mary's Vineyard from the north east.

Circa 4pm it hit.

We have experienced many storms before but not like this one.

And never from the north east.

The damage to the garden and surrounds was extensive.

80 year old trees were blown over or split and shattered, with 30 or so coming down over the dry stone fences and structures in and around the garden and along the front drive.

The homestead and buildings survived relatively unscathed and so did we.

Looking at the trail of damage afterwards the buildings, garden and vineyards were on the outer edge of the cell as it passed through and were spared the worst of the energy.





We surveyed the damage in the calm that followed the storm and the next morning contacted our insurance agent to let him know what had happened.

The agent assured us that we were covered for the damage and the clean up around the house, garden and cellar door, and that the damage to the dry stone fencing by the falling and uprooted trees was all covered by the policy as well.

The clean-up

While we tidied up some of the damage around the garden, homestead and buildings ourselves, the majority of the work was done by a team of 5 contractors engaged by the insurance company with all the machinery needed to cut up, chip and remove the debris, hang ups, trunks and stumps and in general 'make safe' the overall affected area.

This team worked for two weeks to remove the bulk of the mess from around the homestead, garden and front drive. The little things took us many more months.



Then came the repairs to the dry stone walling

We explained to the insurance assessors that we had built the walls ourselves over the years using field stone from the property, and to be able to match the stone used in the repair of the many breaks along the different walls with the stone and style of the original untouched sections, we would prefer to do the work ourselves.

They had no hesitation in agreeing, and advised us to put in a quote which they accepted.

The repairs to the walls were done over an extended period as we were able to fit them in our ongoing work schedule.

There were about 30 places where trees had come down across the walls and it was interesting to see that even though some of the walls had taken the full weight of large falling trees that crushed and powdered the tops of the walls, the basic underlying structure of most of the walls remained sound while only a few sections were completely destroyed.

The repair process was to remove the pulverised stones down to the sound rocks then go out and select similar replacement stone from the quarry or the limestone ridges that run through St Marys Vineyard grazing areas and use them to do the repairs.

As the debris was removed and walls gradually repaired we took the opportunity to make some changes to the structure of parts of the garden where there were now open spaces for the first time in 80 years, and to realign some parts of garden walls that had been decimated. This part of the reconstruction process was at our own cost.

As part of the rebuild, Robin constructed a large dry stone window (below) in the south west corner of the garden to be featured in the September issue of *The Flag Stone*.



St Mary's – cont.



We commissioned a sculptor to create an amphora out of Mt Gambier limestone (above) to fill the large gap in the garden created by the storm uprooting trees directly in front of the homestead.

Trees along the northern side of the front drive that had been affected by the storm were removed to make way for a dry stone wall to be constructed from the garden approximately 300 metres to the front gate (below).



Also, during the process of repair and looking at the loss of trees and shrubs in the garden that were planted in the 1930s and 1940s we decided to replace them with trees and plants that were now more suitable to the general climatic conditions of today and hopefully the next 80 years or so.

The repairs all having been done, dry stone walling continues at St Mary's Vineyard. The Stack (below), a creation of Robin's, is an infill between two gateways giving access to the quarry and other areas here at St Marys Vineyard.



To get line and colour Robin started at the bottom left with rocks from piles of red (Terra Rossa) quarry overburden. This grades into the darker grey angled across the stack with stone picked from the caps of the limestone ridges around the quarry, then another thin strip of rock from the red overburden. To complete The Stack he then went into the quarry proper for the yellow sandstone.

Bring on the Druids – Bruce Munday



Four years ago, Kristin and I left our farm and home of 42 years at Mt Torrens in the Adelaide Hills. With us we (well, perhaps me) took about 15 tonnes of field stone that we had collected but not got around to using – simply too good to leave behind and perhaps a dowry for the Aldinga Arts-eco Village (AAEV), on the Fleurieu Peninsula, to where we were moving. These were ‘in the bank’ for a project that might one day emerge.

Eventually I found an opportunity to build a dry stone courtyard as part of a larger landscaping project in the village. I’ve been a fan of Irish waller Sunny Wieler, who we met nine years ago at The Festival of Stones on Inis

Oirr, and who had built this lovely gathering space. I dreamt of building something similar, albeit hardly to the same standard – I’m just an enthusiastic amateur.



As luck would have it, our former neighbours Paul and Michele Edwards had recently pulled up some large rocks from paddocks they were clearing. We had two days to grab what we wanted before it was all crushed down for creek crossings. These could be the ‘big mothers’ similar to those in Sunny’s design.

The design

The horse-shoe courtyard, which will be part of a mallee garden, has an internal diameter of five metres, with walls up to 110mm with copes. Allowing for the slate floor this met the local Council’s maximum height requirement.



Three of the ‘mothers’ are set 600mm into the ground, the two at the entrance sitting on it. Positioning these was a challenge for a novice and the middle stone is probably about 100mm too far to one side. That doesn’t sound much but it means that the widths of the two middle wall sections differ by 200mm. Does it matter? Probably not. I was never going to pull the middle one out to move it 100mm.

Druids – Cont.

The build



I laid out foundation stones on a 600mm-wide base of lightly compacted road metal, and formed a smooth ark with electrical conduit bent around the 1-in-6 batter frames. The stone is a micaceous schist, great to work with, often splitting along reasonably flat bedding planes (below). It also has good colour and sparkle.



A difficulty with the build was the many very large rocks – some 60-90cm square – but with practice I could break these by dropping them across another large rock as an anvil. The break often had a gentle curve giving one concave and a matching convex piece, ideal for a curved wall. However the process is not for the faint hearted nor if you have back, hip or shoulder issues!



The nice sharp edges from the clean break also give the appearance of quarry stone rather than rounded field stone or floaters, making the courses look tighter.



That said, there was a lot of hammer and chisel work, knocking off pivot points, flushing faces and nibbling edges, all slowing progress. At the end of each day I photographed the job and could barely see any change from the previous day. If I hadn't been enjoying myself it could have been quite depressing.



I'm sure I was working on this course yesterday

Druids – Cont.



Each of the wall sections has three through stones at about 600mm. The two seats are built into the wall, or the wall into the seats, on alternating courses. Finally, the copes bridge the top course, jammed in tight between the 'mothers'.

I discovered that a very nice thing about building in the AAEV was the number of interested visitors to the site (often bringing coffee and snacks) who now know all about 'into the wall, pin from behind and running joints', along with 'so, there's more to it than just stacking rocks on top of each other'.

The floor



Jon Moore and Aaron Slater (suitably named) helped with the Willunga slate floor. Dead flat with narrow dry gaps was something I had never done before, but Jon was expert and furthermore he had a bobcat and a saw. I always learn a lot from Jon; aside from technique, he is much quicker because he can foresee potential problems and plan a way around rather than into them.

Two large slabs of slate are butted almost together along a north-south line, while the axis of the courtyard is about 60 deg WNW, aligned with the setting sun at the winter solstice. The site is now known by villagers as 'The Henge' and we all await 21 June with anticipation!

Finally, chips from shaping and grooming the copes are cobbled together at the entrance – a nod to a village principle: repurpose rather than waste.



Dry stone ... steps – *Gavin Rose*

From 2016 to 2019 I was involved in surveying, planning and upgrading the Coast Track at Royal National Park in NSW – a popular walk that runs for 26km between Bundeena and Otford following the park's rugged sea-cliffs and pristine beaches. As part of the planned upgrade of the aging track infrastructure, the park managers agreed to replace a rusting steel stairway at Wattamolla Beach with a dry laid sandstone stairway.



Old Wattamolla staircase

In order to maintain public access to the beach while various track reconstruction works were in progress, Park staff installed a pontoon by helicopter across Wattamolla Lagoon. As we dismantled the steel stairway, we uncovered a crudely built brick and mortar stairway, which in turn had been built over an earlier stairway carved directly into the bedrock.



Old staircase removed; earlier staircase exposed

Due to the large volume of visitors to the beach I determined that the structure would need to be 1600mm wide and that each step would need to make contact with the one below it to provide strength and stability – i.e. the 'two over one and one over two' rule. This meant that each stone step would have dimensions of 1600 x 450 x 200mm and weigh approximately 335kg.

Due to the planned stairway's exposure to salt from sea spray and high tides - as well as heavy foot traffic – we ordered the steps and wall stones (returns) from a quarry that had stone certified for salt resistance and hardness. The dimensioned cut stone was delivered by truck to a nearby carpark. We then strapped the stone into one tonne loads that were flown to the construction site by helicopter. Once the stones were at the beach, we dressed the faces to be left exposed to give them a rustic finish.



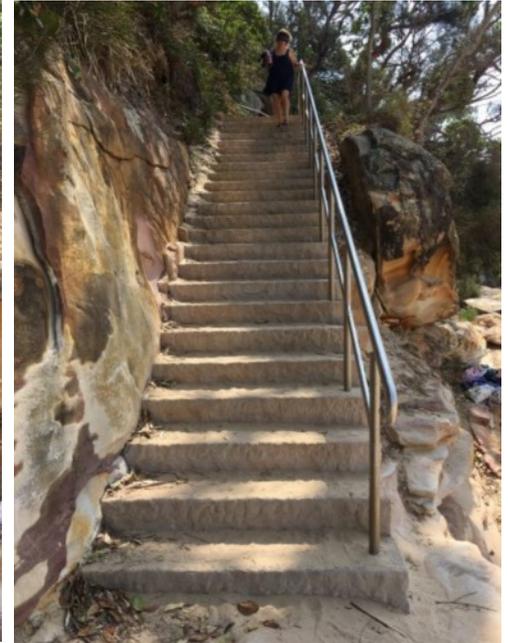
Staircase mid-construction

With the stones ready to be laid, we chiselled a footing into the bedrock and then moved each step stone into position using winches and overhead rigging. We chiselled a recessed footing behind each step which then had a return laid in to tie the step to the bank of bedrock. We chiselled the natural sandstone wall on the other side of the steps so that the step ends could be recessed neatly into it. Each stone was laid, checked for wobbling, and then lifted again to remove the rocking point underneath.

Once the 24-step stairway was completed contractors installed a galvanized steel rail.

The stone building component of the project, carried out by Mark Berry and myself, took approximately two months to complete.

Dry stone ... steps – cont.



Wattamolla staircase finished

Gavin Rose has been constructing and designing walking tracks for over twenty years and often employs dry stone techniques. He worked several years in the USA on projects including the Bass Trail in the Grand Canyon, Arizona. He also worked for the National Trust in the Lake District (UK) repairing and maintaining dry stone walls and up-land footpaths. He currently works for Track and Trail Management Services, based in Melbourne.

Serpents Trail – Richard Tufnell



On the subject of trails and cliffs, Richard Tufnell describes his encounter with a rather extreme version in Colorado.

This rather rickety looking wall is perched many hundreds of feet up on a canyon wall in Colorado National Monument, and is part of the Serpents Trail. The site of a training course for Monument staff and the National Parks in 1997, this section was strengthened using steel bars drilled into the steeply sloping rock. The only other way to secure walls in these situations is to cut rock steps, but that is a much longer process.

At the end of the course, we were entertained for forty minutes by the 101 year old Lloyd Fines (truly) who stood and described how he had

been part of the crew that built this trail in 1915. One of his anecdotes described a grim accident. During work one day high up on the canyon wall, one of the dynamite charges failed to go off. The foreman waited for ten minutes (when it was a requirement that the minimum should be twenty minutes) then ordered the men back in. The dynamite exploded and in a fraction of a second the six men involved had a dreadful choice:- jump 400 feet or be crushed by huge boulders. In the event three men jumped, three stayed, but none survived.

Richard Tufnell, Master Craftsman, is a regular and generous contributor to The Flag Stone (e.g. Issues 46, 49)

Insurance – walls covered? – Jane Boot (DSWAA committee)

Are your stone walls insured?

Barry Mulligan's [article](#) in this issue of The Flag Stone, describing storm damage to dry stone walls at St Mary's Garden, has prompted a few of us to think again about farm insurance. However much we might love dry stone walling, it is neither quick nor cheap. For some landowners the cost of repairing walls following accidental damage will be prohibitive, both in time and money. This cost will often determine whether or not to repair the wall and if so to what structural and aesthetic standard. If no repair is undertaken this can be the first step in the ongoing deterioration of the wall to a point where it is then beyond salvation.



A big job, but it must be done

The DSWAA has recently investigated the issue of insurance coverage for stone walls. From initial enquiries it would appear that at least the 4 major farm insurers do in fact cover stone farm (paddock) fencing as part of general farm fencing despite the wording 'farm stone wall/fence' not specified in the policy. It would also appear that any domestic stone fencing (e.g. driveway gateways, garden walls, etc) is covered provided the dwelling(s) on the property is insured.

Insurance would cover 'listed events' or 'accidental damage' as detailed in the individual policy's product disclosure statement. This would generally include damage as a result of a single event such as a fallen tree (or trees, as for St Mary's Garden), motor vehicle/machinery impact, a flood, a single episode of major stock damage or other accidental damage. It would not include gradual deterioration over time due to stock/wildlife damage, lack of maintenance etc.



Damage from vehicles would generally be covered

The maximum payout for a standard policy would appear to be about \$10,000 per 'event'. This would generally pay for repair by a professional waller or in some cases a capable/experienced amateur, even the landowner themself.

As well as taking out a standard policy it is also possible to include an endorsement and nominate any maximal value of a stone wall or number of metres/kilometres of wall. This is likely to increase the premium payable but also increase the payout in the event of a claim.

If the accidental damage is caused by another person or their vehicle it may also be possible to claim on their third party property insurance.

This possible insurance coverage is good news for landowners and wall owners, many of whom have in the past been unaware that their walls may have been covered.

The DSWAA is not an insurance agent or broker and this column should not be taken as expert advice. Rather, we encourage all landowners with stone walls to check with their insurer and/or broker for exact details and wording and then make their own informed decision with respect to this little known aspect of insurance in the event of accidental wall damage.

Certification – why bother?

These days it seems everyone is talking ‘certification’, from organic vegetables and free range eggs to financial advisers and computer software. We assume the certificate (if it exists) sets the bar for quality and performance.

What has this to do with dry stone walls?

Several years ago Geoff Duggan wrote a piece in *The Flag Stone* (#39, May 2017) partly saying that the absence of certification in the waller profession ‘...puts the onus back on the client to assess the standard of the waller’s work, when in fact most clients and even some wallers cannot tell the difference between good and poor structural work.

‘In other countries with similar organisations (to DSWAA), listing requires levels of competency demonstrated through structured craftsman certification schemes. The scheme adopted by many countries is that of the Dry Stone Walling Association of Great Britain (DSWA(GB)). The problem we face in Australia is the familiar tyranny of distance – relatively few wallers a great distance apart.

‘Having said this I acknowledge that there are good wallers who have not gone through a certification process. This could be due to the inconvenience or simply disinterest in the process, recognising that many wallers work only part-time with dry stone.

‘Overseas experience shows that a certification scheme is a proven way for wallers to demonstrate their skill and to aspire to even higher standards. Equally, it gives potential clients some certainty when looking to commission work from a professional waller.’

Commenting for this current edition of *The Flag Stone*, Geoff adds: *‘The real cost of certification is in time taken to achieve the standards required. Certification has to be earned – it is not just a ticket to be bought by anyone who wishes to promote themselves as a dry stone waller. The actual cost of the certification test is relatively low compared with other trade qualifications within the Australian tertiary system.*

‘The great ‘industry’ benefit of certification by an internationally recognised body (DSWA[GB]) is its promotion of the craft and trade as a profession rather than a hobby. It recognises standards and ensures these are met, at the same time reassuring clients of a waller’s capabilities and demonstrated experience.

‘Finally, certification promotes best practice and skills development for the future of the craft in Australia. It is about having some sort of regulation in the industry like most other trades.’

DSWA(GB) Certification standards

Level 1 (Initial) Certificate in Dry Stone Walling: Basic walling and repair work to develop the skills and knowledge required to progress on to further opportunities in dry stone walling and other related areas. Specifically, the waller will have demonstrated to an accredited tester that he/she can strip down and rebuild 2.5 m² (measured on one face) of free-standing dry stone wall at least 1m high in a 7 hour period. The testing is evaluated against several elements of recognised walling best practice.

Level Two (Intermediate) Certificate in Dry Stone Walling: Further develop dry stone walling skills and knowledge, including the construction of a cheekend. The basic principles of construction as set out in the Initial Certification are followed. In addition, particular emphasis is placed on line and straightness, adequate hearting, selection of stones for all parts, batter, correct laying of through stones and secureness of cope stones.

Level Three (Advanced) Certificate in Dry Stone Walling: Candidates for Level 3 must already hold Level Two certification. A higher level of craftsmanship is then required including ability to build relatively complex or challenging features and across difficult terrain and on a larger scale than for Level two. This qualification is designed to enhance the skills of those following a career in dry stone walling.

Level four (Master Craftsman) Certificate in Dry Stone Walling: Candidates for Level Four must already hold Level Three certification. Level 4 is based on a significant body of work (not a single piece) encompassing different stone types and building styles. Craftsmanship must be to the very highest standard. There is currently only one Master Craftsman working in Australia.

The DSWAA encourages good walling practice and agrees that one way to achieve this is to test and certify wallers to an accepted standard and make this certification public. We have adopted the DSWA(GB) standard with its four grades from Initial through to Master Craftsman – these essentially describe the minimum skills of a waller with each certificate.

When asked, for example through our website, we will only endorse/promote certified wallers.

Currently Geoff Duggan is the only accredited DSWA(GB) tester for certification in Australia.

Certification *(cont.)*

A case study – Jon Moore, Level two certification



Jon being tested for Level 2

Getting certified as a dry stone waller was a relatively costly process, but then so are most pathways to qualification.

For me, particularly initially, it was expensive in terms of time: Time to learn the basics, practising, continuing reading and studying, practising, applying the skills learnt to different stones and types of walls, then more practising. Then there was the out-of-pocket expense of travel, time off work, and fee for testing.

My initial motivation was to be measured and tested against a recognised standard proving that I could wall efficiently and well, giving myself and clients confidence in my abilities.

As a company (JRM Stonework) we also believe the benefits of the certification outweigh the costs and so we have begun paying for our employees to go through the process.

Having invested in certification I can see multiple benefits (in no particular order):

- Transferability/portability that comes with internationally recognised skills
- Up-skills the waller to a quantifiable standard
- ‘Sets the bar’ for the waller so that training builds skill, speed and efficiency
- Gives the waller ‘a ticket’ – professional credentials
- Give clients some peace of mind knowing that we have been certified to an internationally recognised standard
- Makes hiring easier (Pre-Covid we had a British waller email out of the blue looking for work while on a working holiday through SA It was easy to say yes as he was Level 2 certified so we had a clear idea of his capabilities.)
- Helps with employee retention if they can see career progression
- Distinguishes us from the competition
- Gives dry stone walling more credibility and visibility in the wider community



Winners are grinners – Aaron Slater after successful L1 test

Chipping away



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Chisels can be a mixed blessing. The right tool in the right hands can make a good wall look great, and yet the moment you bring a tool onto a wall the whole job slows down. As one young waller mentioned to me: 'I have to remind myself that I'm a wall builder, not a sculptor'.

Depending on the type of stone, a rustic wall can be built with just a hammer, or perhaps not even that. However a landscape feature-wall built from quarried stone will often need a variety of chisels to achieve a nice tight finish that does justice to both the stone and the wall. The question then becomes: What chisels? Good chisels (with tungsten carbide tips) are expensive, so what to buy?

Chisels basically come down to three: Pitching chisels for removing and trimming protrusions on the stone face and ends; pointed chisels for finer processing of protrusions; and tracers or flat chisels for splitting stone or dressing bedding surfaces.

The [Stone Trust](#) recently published a feature in its monthly newsletter where Brian Post, DSWA(UK) certified Master Craftsman, put together a guide to help new wallers select the chisel(s) that best suit their needs. The following chart is based on the various uses and types of stone and is presented with the kind permission of The Stone Trust.

Click on the links in the table to see other views or aspects of the chisels.

Good chisels are expensive as is postage from USA. Many of these tools or equivalents are available from [Diamach](#) in Sydney.

Chipping away - cont.

X - Ideally suited in many cases / Effective in some instances	Use								Stone types			
	Splitting level-bedded stone with grain	Squaring up blocks	Rock facing or bull-nosing	General trimming	Trimming flagstone to shape	Removing lumps & high spots	Tracing a line	Granite	Hard schist & gneiss	Soft lime-stone & sandstone	Bluestone (hard sandstone)	Splitting slate
1 25mm tracer chisel	X			/		/			/	X	X	/
2 Carbide tip point (small)		/	/	/		X		X	X	/	/	
3 Carbide tip point		X	/	/		X		X	X	/	/	
4 37mm pitching tool		/	X		X			X	/	/	/	
5 37mm tracer chisel	X									X	X	X
6 Bull point		X	/	/		X		X	/	/	/	
7 Carbide hand tracer	X		/	/					/	X	X	X
8 37mm mason chipper		X	X	X	X	/		X	/	/	X	

25mm tracer chisel

Removes bumps on soft stones; splits harder stone with the grain

Carbide tip point (small)

Great for detail work and for people who prefer smaller tools

Carbide tip point

Ideal for making flat sides on round stones

37mm pitching tool

Best for rock facing and trimming flagstones

37mm tracer chisel

Best for splitting with the grain and general use on softer stone

Bull point

Ideal for making flat sides on round stones

Carbide hand tracer

A go-to tool for splitting with the grain; can be used more widely on softer stones

37mm mason chipper

Most versatile chisel when dealing with hard stone. Ideal for trimming against the grain

Editor's page

Some six months ago I received an email 'out of the blue' from one Tracie, asserting that she was the great granddaughter of Patrick O'Grady. She had evidently been watching an old ABC Landline episode where I mentioned him as one of the most significant wallers who helped build the Camel Hump wall in the early 1860s. The longest continuous dry stone wall in Australia, it runs 67km from Farrell Flat to Booborowie in SA's Mid-North.

In our email exchanges Tracie told me that Patrick and his family migrated from County Clare & ended up at Macclesfield SA near Strathalbyn – some 300km from Farrell Flat. Surely not the same O'Grady!

The [Meadows Heritage Report](#) comments on Blackwood Park near Macclesfield, the final site visited on the recent DSWAA field trip: 'The stone walling on this property is notable, with quality drystone construction carried out by three Irish families: O'Grady, Walsh and Brennan. Approximately fourteen kilometres of stone fences surround choice watering points and a number of shepherd hut sites remain. According to the late Sir Ewen Waterman, the dry stone walls were constructed between 1853 and 1857, during C Fisher's occupation'.

CB Fisher subsequently took up Hill River Station (near Farrell Flat), then the biggest pastoral run in the colony. Evidently he took the great waller with him.

What herculean feats these early wallers performed and how important that we preserve their legacy.



The Association's vision is that dry stone walls and dry stone structures (dsw&dss) are widely accepted for their unique place in the history, and culture of the nation and for the legacy they represent.

Our goals are:

- *To inform and educate the nation about the cultural significance of dsw&dss in Australia and their associations and meanings for past, present and future generations.*
- *To document dsw&dss and draw on historical records in order to encourage appreciation, conservation, maintenance, repair and interpretation of those of cultural significance.*
- *To establish disciplines and accreditation systems that can contribute to the care and construction of dsw&dss.*
- *To assist in ensuring that new construction, demolition, intrusions and other changes do not adversely affect the cultural significance of dsw&dss and that modern uses of them are compatible.*
- *To respect Indigenous heritage places and cultural values, and, in particular, to assist in the conservation of those associated with dsw&dss.*

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Membership

Annual membership fee

Corporate \$80; Professional \$50

Single \$30 (\$80 for 3 years)

Couple \$50 (\$130 for 3 years)

Cheque: DSWAA Inc. and posted to DSWAA Membership, 87 Esplanade West, Port Melbourne 3207; **or**

Bank Deposit at any branch of the ANZ Bank **or EFT:** BSB 013 373, Ac. no. 4997 47356

Clearly indicate membership identity of payer

New members

Complete the online membership form on our [website](#): Alternatively email or post name, address, phone number/s, and area of interest (eg waller, farmer, heritage, etc) to the membership secretary (above).

Renewals

Annual fees are due May 31 after the first full year of membership. We send renewal notices prior to this.

Photos

P 1, 2	L Allison
P 3-6	L Allison, A Miller, K Munday, B Munday
P 7	J Holdsworth, courtesy A Miller
P 8, 9	K Munday, D MacAllan (8 bottom left)
P 10-13	J Boot
P 14-16	B Mulligan
P 17	R Davies (drone), S Wieler, B Munday
P 18	K Munday
P 19	B Munday, B Molanus (group)
P 20	G Rose
P 21	G Rose, R Tufnell
P 22	B Munday
P 24	J Moore
P 25	The Stone Trust