

Turfgrass



VOLUME 24.6 NOV-DEC 2022

MANAGEMENT JOURNAL

Australian Open double act

Victoria and Kingston Heath co-host historic Open



RQ doubles up

Ten months, two PGAs

A challenging climate

Quantifying and improving
turf's carbon footprint

The 'Dean' team

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COVER STORY
AUSTRALIAN OPEN DOUBLE ACT 8

Two golf courses, two tournament crews, three championships... It was all new territory for the ISPS Handa Australian Open in early December with two of the Melbourne Sandbelt's most revered courses – Victoria and Kingston Heath – co-hosting the history-making event. ATM editor Brett Robinson caught up with superintendents Steven Newell (Victoria) and Hayden Mead (Kingston Heath) to look back at a challenging lead in and how they collaborated to ensure their playing surfaces were consistent for the mixed-gender tournament.

Cover: Looking back up Victoria Golf Club's 12th hole during the 2022 ISPS Handa Australian Open as course crew members go about their afternoon duties. **Photo:** Brett Robinson.



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PHOTO: SCOTT CAMPBELL PHOTOGRAPHY

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Starting a conversation

Many in the industry would have read or heard about the article penned by Rohan Clarke that appeared in Australian Golf Digest's December 2022 edition titled 'The crisis facing Australian golf'. In it, Clarke, a multiple award-winning golf journalist and Digest senior writer, talks with superintendents and greenkeepers about their experiences which have seen them driven out of their roles or forced them to reconsider a career in turf. The article highlights a variety of reasons, most of which readers of this journal will know only too well – stress, being poorly treated, unrealistic expectations and demands, dealing with and being micro-managed by Boards and committees, the desire for a better work/life balance and the perennial issue of low remuneration. If you haven't read the article then do yourself a favour because I am sure it will resonate with many.

The article was accompanied by an editorial from Digest editor Brad Clifton titled 'It's time to talk about – and fix – golf's crisis'. To quote Clifton: "Clarke shines a light on a dark issue that's not going to go away unless behaviours and working conditions at golf clubs change. It's one of the most revealing (and most challenging) pieces of reporting we've delivered. If it serves as a catalyst to begin a proper conversation within the four walls of our sport, it will have been worth the months of digging." He goes on to comment that "Our supers need more authority and deserve more appreciation for everything they put up with" and that "there needs to be a long-term fix here before we lose more of our home-grown talent for good."

As if to back that all up, in the weeks leading up to Christmas we had arguably three of the industry's brightest superintendent talents all hand in their notice or finish up. While they all had differing reasons for doing so and are, thankfully, staying within the turf industry in different capacities, a common denominator was the fact they have young families which played a part in their decision. Two of them also had a horror 2022 with floods and extended course closures which, while not the reason for their departure, highlight the unique and extraordinary stresses and all-encompassing nature of the role.

Considering that Australian Golf Digest has a broad readership of 176,000, as well as 261,000 monthly visitors to its website, the amount of eyes likely to have crossed Clarke's article and Clifton's editorial should open more than a few to the current challenging landscape. Hopefully it will engender some further discussion and prompt clubs to reflect on their own situation and question whether the working environment they have is a healthy one.

Certainly the feedback that the Digest team has received to date would indicate that the article has pricked a few consciences. Magazine managing director Nick Cutler says it has generated one of the biggest responses since the publication of their 2016 article 'Is your board jeopardising the golf club's future?' which was also penned by Clarke. Such a response will only likely increase once the online version of the article, which currently sits behind a subscription paywall, is released for general viewing in late January.

To finish on an upbeat note, and one which touches on the issue of talent leaving the industry, there was a nice postscript to the recent ISPS Handa Australian Open co-hosted superbly by Victoria and Kingston Heath golf clubs (see our extensive coverage of the tournament from page 8). The Open signalled the end of qualified greenkeeper Jasper Bailey's time with the Kingston Heath crew, who after nearly 18 months at the club headed back to his home town of Coffs Harbour to take on a position at Bonville Golf Resort. Posting on LinkedIn in the days immediately following the tournament, Bailey commented:

"There's nothing quite like a tournament to bring the passion back and that is exactly what has happened to me. Come Monday I will be moving back to Coffs Harbour from Melbourne. My original plans were to get out of turf and explore other careers, however, thanks to Hayden Mead (superintendent), Tim Hamilton (assistant), Andrew Taylor (general manager) and the rest of the crew at Kingston Heath, the love has returned and I will be working full-time at Bonville Golf Resort. What a great week to finish on and what a great group of people to work with. Thanks everyone for the good times at the Heath and the great week which was the Australian Open."

Just goes to show the value and impact that a positive work environment can have on an individual and what an excellent senior leadership team can foster and instil in those underneath them. Enjoy the read and all the best for 2023...



Brett Robinson, Editor



Challenging but rewarding year as ASTMA looks toward 2023

It's fair to say that when the team at the Australian Sports Turf Managers Association (ASTMA) sat down around this time last year to plan the year ahead and what 2022 would look like, none of us could have predicted the kind of year that our members would be in for.

Once in a generation (or one-in-100-year) flooding events impacted almost the whole of the eastern seaboard, with some facilities recording their highest ever annual rainfall totals by July. The extensive and widespread damage to facilities and courses, as well as the seemingly never-ending run of below-average temperatures and excessive rainfall, were nothing we foresaw. As if to reinforce that, as I type this it is currently 10°C in Melbourne – in the middle of December!

Reflecting on our activities across an unexpected year, I was recalling to a member recently that over the course of the last 12-18 months, as an example, the association has spent a significant amount of time advocating with state governments around water access and water rights for facilities impacted by years of drought, only to turn around and have discussions with the same people at these government departments less than six months later advocating for the provision of funding and support for flood damage to the very same facilities!

One constant from year to year in this profession is the size of Australia and the very different challenges our sports turf managers face depending on where they are based. We have seen sharp contrasts in growing conditions between states over the past few months as summer has failed to materialise in southern parts of the country, while those in northern regions have experienced increasing tropical events, extended heatwaves and instances of cyclonic winds. And yet, in a testament to the professionalism of the people in this industry, the attitude overwhelmingly has



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been one of 'sleeves up' and getting stuck into addressing the constant challenges, repairing damage and, above all else, finding ways to offer support to fellow turf managers who are doing it tough.

At the same time, an underlying problem was intensifying in the economy with severe challenges being faced surrounding the availability of labour. With the lowest unemployment rate in over 50 years, many industries found themselves operating with workforce gaps. The sports turf management industry was not immune to this hindrance, with a growing number of facilities impacted on the staffing front.

At a recent meeting with association heads from right across the country, the same challenge was top of the list for all industries present – attracting talent – with no industry expressing that labour was not a concern. We continue to work with, and hope, that the recently released Federal Government White Paper on addressing the labour market challenges assists in addressing the issue, with a number of programs and initiatives due to start next year to consolidate the availability of skilled labour.

IN A STRONG POSITION

Despite a difficult year, the association has continued to combine an approach of

supporting members and the industry and delivering on strategic initiatives, with an objective to strengthen the industry's ability to grow and continue improving. Among these highlights are programs such as the development and launch of the Women in Turf Strategy, which has already surpassed milestones on engagement with delivery of the ASTMA Mentoring Program and work experience programs at Adelaide Oval (AFLW Showdown) and Blundstone Arena (WBBL hub).

We hosted the first-ever joint turf management conference in Melbourne in conjunction with the General Managers Association (GMA), which allowed for a great deal of positive discussion around where the golf side of the industry is heading, and also saw the continued growth of the ASTMA Certification Program for sports turf managers.

Elsewhere, AGCSATech has conducted multiple turf research trials, with an expanded research program in place for the coming year. We also continued work with the Australian Golf Industry Council to fund research into environmental and sustainable management of facilities under the Golf Course 2030 program. Though slightly delayed due to the need to support flood-impacted facilities, this program will form a significant part of our focus in 2023.

Operationally, the association has launched its new website address – www.astma.com.au – which was no small undertaking by the team. It is always pleasing to see these efforts making a meaningful difference as membership numbers have grown by double-digits again this past year. An 11 per cent increase in membership positions the association strongly as we move into the new year.

As I have taken the opportunity to reflect, I am constantly thankful for the support we have received and would like to pass on our gratitude to each of our premium and trade partners who continue to support us, which allows us, in turn, to support the industry. Their assistance and collaboration is truly valued and the programs we are able to develop and deliver to thousands of sports turf managers across the country wouldn't be possible without their backing.

Last, but by no means least, I would also like to thank the ASTMA Board, led by president Ben Tilley, and the diligent and hardworking team at the association who display a continual drive and motivation each day to support members and the industry. On behalf of the Board and staff I wish everyone a Merry Christmas and a safe (and better) New Year ahead. 🌟

The engagement and publicity surrounding the ASTMA's recently launched Women in Turf Strategy has been one of the real highlights of 2022



PHOTO: TRISTAN LINTERN (ADELAIDE OVAL)



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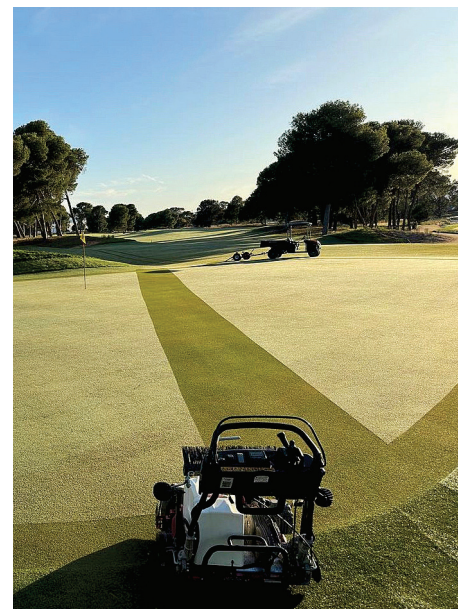
ATM showcases some of the best social media images from around the industry in recent months.

f BRETT WOODWARD
"Greenkeeper's revenge day" (Coral Cove superintendent Brett Woodward took 'sweet' revenge in setting up this minefield on one of his greens during their recent Revenge Day. As he quipped in one of the comments, 'Players will be eating them for weeks!')

ig ADVENTURESINGREENKEEPING
"Sunday mornings don't get much better than this." (Weekend bullets at Adelaide's Glenelg Golf Club.)



t NATHAN TURNER
"Crazy, crazy this morning, trying to navigate our way around to mow greens before going under again. Fantastic effort from the guys." (New Latrobe GC superintendent Nathan Turner certainly had a baptism of fire, with the course going under multiple times during his first month.)





f in LIAM SMALL, BRETT NICOL, SIMON RICHALOT, JASPER BAILEY AND JAYDEN ZAPPELLI

"The man, the Smith, the legend." (The tournament crews at Kingston Heath, Victoria and Royal Queensland were quick to snap a few selfies and group photos with some of the stars at the recent Australian Open and Australian PGA. Pictured above and below are members of the Kingston Heath crew with tournament victors Cam Smith and Adrian Meronk; right – Jayden Zapelli with Cam Smith; far right – Jasper Bailey with Minjee Lee; bottom right – RQ's Brett Nicol with Adam Scott.)





Australian Open double act

It was a history-making week on the Melbourne Sandbelt in December as Victoria and Kingston Heath golf clubs played host to the first combined national Open tournament in world golf. ATM editor Brett Robinson caught up with host superintendents Steven Newell and Hayden Mead to see how their preparations went and the role they and their crews played in one of the most talked-about weeks in Australian golf for a long time.

Four days, two spectacular golf courses, two hard-working tournament crews, three fields, two cuts and three deserving champions. It was all new territory for the ISPS Handa Australian Open in December which made history by becoming the first national golf Open to combine men's, women's and all abilities tournaments in the one event. Befitting such an occasion, two of the Melbourne Sandbelt's most esteemed courses – Victoria and Kingston Heath – combined forces to perform a seamless double act, with Victoria taking the lead as host of all four rounds and Kingston Heath supporting as co-host of the first two rounds.



Victoria foreman Josh Hunter handwaters the 12th green after the third round of the 2022 ISPS Handa Australian Open in early December

But by no means was it simply a matter of getting back on the bike. Both they and their crews had to contend with a very challenging lead-in period, while the combined nature of the event meant a level of collaboration between the two clubs that they hadn't experienced before. This time around it was a very different prospect indeed.

RECORD-BREAKING

The stunning presentation of both courses come the Open belied what was a supremely difficult build up. As if to reinforce Melbourne's reputation for fickle weather, it really was a run-in that was out of the box. Newell and Mead had to call upon all their nous to navigate their courses and staff through one of the worst springs on record which had a significant impact on their preparations.

Throughout September, October and even as late as two weeks before the tournament teed off on 1 December, Melbourne was constantly lashed by incessant rain, hailstorms, prolonged cool conditions and, at times, Antarctic-like winds. Kingston Heath recorded its wettest October on record with 202mm, smashing the previous record of 165mm set in 1975. Likewise, Victoria's 176.5mm was its wettest October since club records began back in 1985 and was also their third wettest month on record since that same year.

One week saw temperatures in the low 30s (and that was very much an exception) and then six days later a maximum of just 13 along with hailstorms. Mercifully, on cue, the weather started to enter a more stable pattern 10 days out from the tournament and would continue through until its conclusion, enabling both crews to get their surfaces dialled in.

"It was nice to finally have a run of good weather considering what we experienced," says Mead, who this past June notched up his tenth year in charge at Kingston Heath. "It was probably one of the toughest lead-ins to a tournament I have had. The weather was very frustrating. We never seemed to get a break and after that first month of bad weather it did start to get to me. But you got to a stage where you had to say to yourself, 'Well, we've done everything we can, it is what it is'.

"We also had the Short Course construction and grow-in to focus on as well, so it was a pretty crazy time. The logistics around what was required on the Short Course, like getting the height of cut down on the new greens, as well as what we needed to do on the championship course for the tournament, was a challenge, especially with regard to labour requirements. We were pushing the Short Course hard to get it ready to maybe have an exhibition on it, but we never got there due to the weather being so bad."

After a two-year COVID hangover, which for Kingston Heath included the cancellation of the 2020 Men's Australian Open it was supposed to host, the return of a major golf event was just the tonic for a tournament-starved Melbourne public. And they voted with their feet, with huge crowds flocking to both courses to see the likes of Australian stars Cameron Smith, Adam Scott, Minjee Lee and Hannah Green, as well as some quality international players in the likes of eventual winners Ashleigh Buhai and Adrian Meronk.

It was also the first time, for the men's Open at least, that the tournament had been played on the Melbourne Sandbelt in 20 years. Between 2006 and 2019 the Open resided in

Sydney, with the last visit to Melbourne coming in 2002 with the infamous 54-hole event at Victoria. Needless to say there were more than a few points to prove with the tournament's return in 2022 and they would end up being emphatically made.

While it was a major challenge for organisers to effectively stage three tournaments in one hit across two venues, there was no denying that the presentation of Victoria and Kingston Heath wowed all. Orchestrating that success were respective host superintendents Steven Newell (Victoria) and Hayden Mead (Kingston Heath), both vastly experienced turf managers with a slew of major tournaments on their CVs.

PHOTOS: BRETT ROBINSON

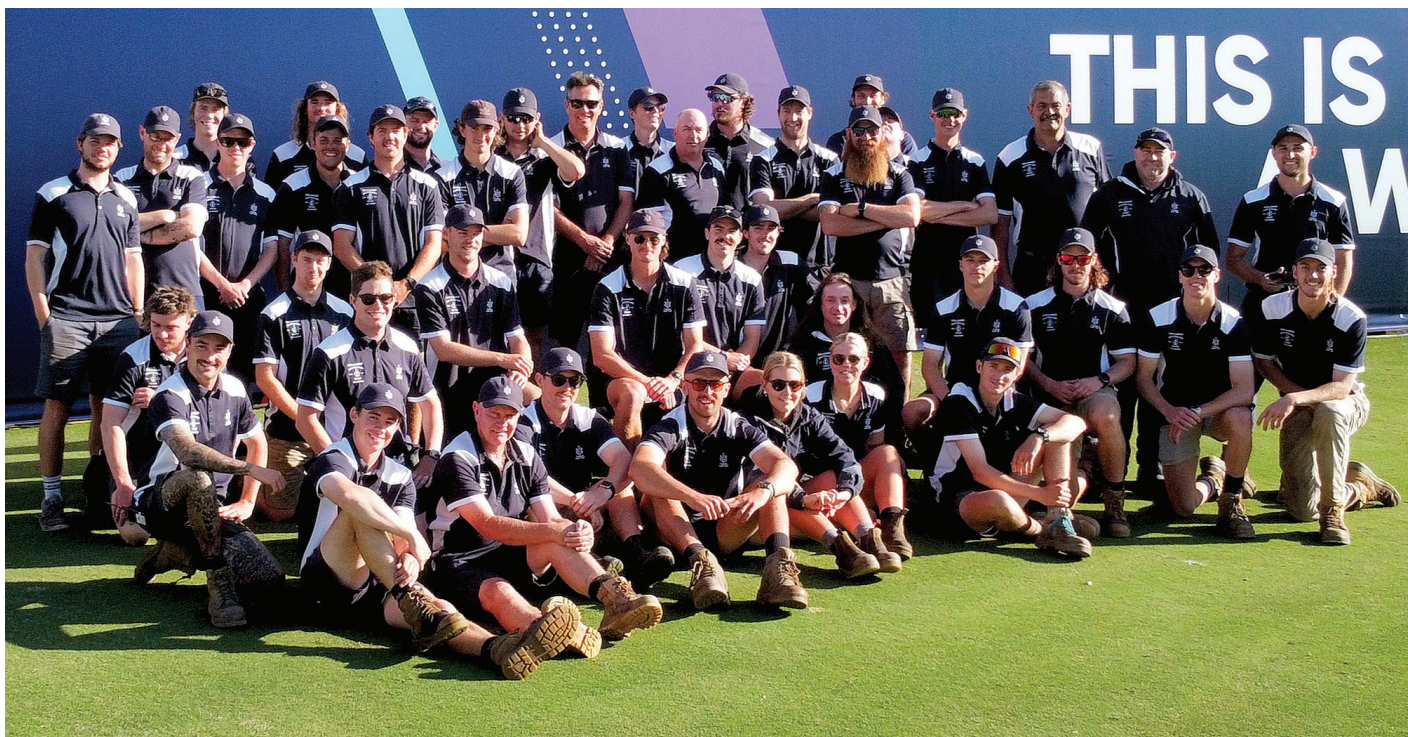


PHOTO: DARCY JONES

Victoria Golf Club's crew of 17 swelled to more than 40 for the 2022 ISPS Handa Australian Open, with volunteers coming from across Melbourne and interstate for the week

Adds Newell, who took over at Victoria in the winter of 2016 after 19 years at Kooyonga Golf Club in Adelaide: "I didn't experience many springs like that in South Australia that's for sure! It brought back a few memories of the early '90s when I was at Metropolitan – pumping bunkers, water lying around the roughs and constantly pushing sand up bunker faces. But that was a long time ago. We are generally a much drier course than we are a wetter course, but we had pockets of low lying areas which remained wet even up until a week out from the tournament.

"It seemed like it was happening every week – one rain event after another and having to patch things up for member play which would put us behind with our tournament preparations, but there wasn't much we could

do about it. I can't really remember when we had a decent run of weather, up until about a week before the tournament. We could only hope that things would improve and we ended up getting the weather during tournament week which we were very grateful for."

PUSHING HARD

Come tournament week you wouldn't have known the challenges either crew had faced, a testament to the various programs and works that had been instituted in the preceding weeks and months (see pages 16 and 17 – 'Open countdown' – for a summary of these). With the conditions working against them, both superintendents had to be calculated and at times brave with their course management decisions. The amount of time spent

reinstating bunkers after all the rain events was a huge drain on time and resources, while the cool conditions meant the warm-season turf had to be pushed that little bit harder to get it to a level they were happy with.

"I was really pleased with our couch and bentgrass surfaces which came up really well for the week," says Mead. "Even from a month out they were in a good spot and that continued through until the tournament. Cutting wise we didn't need to do too much with the couch surfaces. We didn't have that proper spring growth, so we were only cutting two days a week up to the week of the tournament and then started cutting daily from the Sunday prior. Thankfully we had some good coverage through winter and that carried us through. With the greens we put a growth regulator on them a week out which gave us some consistent speeds. It was probably a little bit earlier than what we thought we would do, but it worked out really well."

Assisting Newell's preparations were a series of daily course closures in the 12 weeks leading up to the tournament. The brainchild of Victoria general manager Antonie Els, one day each week was set aside to give Newell and his team free reign to get as much work done. Having no golfers meant major programs such as spraying, cutting and tree work could be done more quickly, efficiently and safely.

"They were the busiest days of our week," reflects Newell. "We would have all hands on deck to make the most of those days. We had things going left, right and centre – spraying



Kingston Heath superintendent Hayden Mead (centre) discusses course set up with crew members Nathan Ambler (left) and foreman Geoff Tandy

greens, cutting fairways, tree work, getting contractors in. They were very beneficial and with the volume of golf we get here, it meant we could do things that would have otherwise been difficult with golfers around.

"We do have the occasional morning closures here, probably 8-9, during the year. I think things like that are becoming more and more important for all courses because of the demand for golf at the moment. It's difficult to get work done around golf safely, so I think closures, whether it's just for a morning or closing a nine for a period of time, can have some real benefit and enable staff to get those real important jobs done.

"We certainly wanted to do any spraying on the course when there were no golfers on the property. Not because those things were dangerous, but because it was so much easier to get around and the guys didn't have to work with the pressure of golfers coming up behind them. I think we sprayed the fairways almost every week with iron, magnesium and sulphate of ammonia when we had the closures."

WORKING TOGETHER

With two courses hosting the event and an expectation from tournament organisers to have similar conditions across both venues for the first two rounds, both Newell and Mead were in regular discussions about their programs and parameters such as green speed and firmness. Both courses took Clegg hammer readings to ascertain firmness levels on the greens, with Victoria averaging in the mid-120s following Wednesday's practice round and Kingston Heath hitting the low-120 gravities after the first round.

Green speed was also a constant discussion point, with both courses asked to keep them at 11-and-a-half to accommodate



December's Open was Victoria superintendent Steven Newell's first major tournament since the 2007 SA Open

the mixed gender field which numbered in excess of 280. Cutting heights were only fractionally different, with Victoria single cutting their Pure Distinction bentgrass greens at 3mm, Santa Ana fairways and tees at 8mm and surrounds at 5mm. Kingston Heath's Penn A1 greens were single cut at 2.75mm and the Santa Ana fairways and tees at 9mm.

"It was really great working with Hayden and we had a lot of discussions in the lead-up to the tournament," says Newell. "We've got a very good relationship and there certainly weren't any secrets between us. I know some of the things he said to me I really appreciated and implemented and maybe there was a little going back the other way as well.

"Hayden is an experienced Sandbelt superintendent who has hosted big tournaments and I really appreciated his help. We bounced ideas of each other and worked together in regards to the volunteers and

making sure that was done fairly. Ironically we didn't see each other's courses because we were just too busy, but we spoke often.

"For the tournament we were just single cutting greens which was all we needed to do to maintain our speeds. We hand-watered to top them up where we needed and probed a lot of areas. Being a mixed event we were very mindful of excessive firmness and speed. Golf Australia gave us the parameters to work within and we gave them what they wanted in order to make sure it was a successful tournament.

"While we tried to have things consistent across both courses, you have to remember we are in different boats. Hayden has 20-plus-year-old greens and I have four-year-old greens and a different turf variety. Hayden had the tournament for two days and I had it for four days, so there were some key differences as I had to make sure ours got through the weekend as well."



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Josh Ward cuts Kingston Heath's double green (2&16)

Adds Mead: "They (the DP World Tour) were always keen to have the courses fairly similar in regards to speed and firmness. Steve and I worked pretty closely for a while talking about it. We had planned to do some more data collection from a couple weeks out, but the wet weather threw that out the window. During tournament week we did some Clegg readings here and then went across to Victoria after the Pro-Am. We were just fractionally less than Victoria. Our normal parameters here are between 120 and 130 and we were aiming for the mid-120s which we nearly got to."

With the uniqueness of having two courses just four kilometres apart (as the crow flies) being prepared for the same event, from an industry perspective it was intriguing to track how both approached their respective preparations. To that end, in late September assistant superintendents Darcy Jones (Victoria) and Tim Hamilton (Kingston Heath) penned weekly course updates which appeared in the ASTMA's newsletter *The Cut*.

Each provided a blow-by-blow account of their major tournament works and programs as the tournament countdown began, showcasing the huge amount of work that goes into getting a course up for such an event. For Mead, reading Victoria's weekly updates proved an interesting exercise and on more than a few occasions he found himself reflecting on his own preparations.

"When you have two clubs doing similar preparations for the same tournament, it was really interesting," says Mead. "I would read those updates from Darcy and be thinking 'Maybe I should be doing that' or 'Why are they doing that now?'. As it was, we were about a week out with most things – I was doing something one week early and then Steve was doing the same thing the week after or vice versa, so it was really interesting to observe how each course handled things."



Victoria apprentice Zach Bouchier cuts the 18th. Victoria's Santa Ana fairways were cut at 8mm for the week

"Obviously you have different preparations and plans because you're a different golf course and have a different environment and different grasses, but it did make me question things a little which I wasn't used to before. It really made me think twice about some things – mainly the timing of applications – but I always ended up sticking to my guns and going with what worked for us here."

TOURNAMENT MINDSET

While the week's focus was arguably more on Victoria given it was hosting all four days, for Mead and his Kingston Heath crew the approach was no different to other major tournaments they've hosted before, even though they were only involved for the opening two rounds. Admittedly the tournament

infrastructure was miniscule compared to past events and there were a number of logistical issues which cropped up, but from those residing down in the maintenance facility it was very much 'game on'.

It was July 2018 when Golf Australia confirmed that the Open was heading back to the Melbourne Sandbelt after its extended stay in Sydney, with Kingston Heath slated to host the Open in 2020 and Victoria in 2022. Victoria at the time was midway through its major greens and surrounds conversion project, while Kingston Heath had come off hosting a successful 2016 World Cup of Golf and had just reconstructed its par three 19th hole.

With the Open locked in, the latter part of 2018 and 2019 saw a flurry of works at Kingston Heath, including the extension and construction of new tees on holes 6 (which played as tournament 9 for the recent Open), 12, 14, 16 and 18 which added about 130 metres in length. Bunkers would also be a major focus – packing faces, bunker lips and rebuilding bunker tongues – all in readiness for the tournament. Then came the COVID pandemic and with it the news that the 2020 event was being shelved and then the seemingly endless months of lockdowns and no golf.

It wasn't until about eight months before December's Open that Kingston Heath knew it would be back in the tournament spotlight as part of Golf Australia's desire to hold a dual-course, mixed gender event, similar to the tried and tested format of the Vic Open at 13th Beach. Six months out it was officially announced that Kingston Heath would co-host the Open with Victoria, with the opening two rounds played across both courses. Although not the same as having all four days, Mead says it came at a perfect juncture and was something the crew needed after a tough couple of years.



Kingston Heath and Victoria assistants Tim Hamilton (left) and Darcy Jones (right) discuss Clegg and moisture readings following Wednesday's Pro-Am



Victoria apprentice Sam McKenzie (left) and Glenelg GC volunteer Graeme Davidson cut the 9th green at 3mm

"Even though not the full event, it was great to have it back here," states Mead. "Obviously it was the least of our concerns in 2020 with a global pandemic to contend with, but it was pretty disappointing that we couldn't hold the tournament then. We'd prepped that whole year before for it and then to have it called off and never really knowing if it was going to come back was hard. We were only coming off a six month run in terms of notice that we were hosting it alongside Victoria and while we would have liked to have known a bit earlier that was just the way it was."

"To have the opportunity to be part of it again was really good for the club, especially for the course staff. After having two years on and off due to COVID, I think the presentation and expectation levels had dropped a little because we were preparing a golf course for no-one and we weren't doing the finer

detail work that you would normally do for the membership. That's why I was keen to have the tournament so that the staff could get back into that mindset of presenting at a high level all the time. And they really responded and did a fantastic job which was pleasing to see."

"Yes, it was a bit of an anticlimax that the tournament was over for us after the Friday. That was probably the biggest downside for us. We actually had the Monthly Medal the following day so that was a little unusual. Not being able to see the last shot of the tournament on the course you have prepared for so long was a little bit hard, but for the staff to see the course on TV during those first two rounds and how well it presented made a big difference and gave everyone a lift. My crew and the volunteers did a great job and it was great that they were able to see their hard work on display and recognised."



Victoria apprentice Max Horell cuts the 16th green

NAILED IT

December's combined Open debut was always going to be closely scrutinised in the aftermath and so proved the case with players, media and tournament organisers debating its pros and cons.

While there were tremendous crowds and some stunning golf on display, behind the scenes there were some teething problems as you would expect, whether that was to do with the logistics of using two separate golf courses, the 'player experience' and television coverage. Getting spectators and players between the two courses during the opening two rounds, the dearth of tournament infrastructure at Kingston Heath and a marathon third round (which went for more than 12 hours) followed by a controversial 54-hole cut, were just some of the issues that were flagged.

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Jordan Wemyss handwaters Kingston Heath's tournament 5th green following the opening round

In Episode 127 of the Good Good Golf Podcast, respected golf journalists and commentators Rod Morri, Brendan James, Jimmy Emanuel and Adrian Logue dissected the mixed Open concept, acknowledging a number of the abovementioned shortcomings which would need to be addressed should it be repeated when the tournament heads back to Sydney in 2023. They were all, however, unanimous on the one thing that did work.

"Everything that was good and memorable about the week on the Melbourne Sandbelt happened inside the ropes," says James, editor of Golf Australia magazine. "All eyes

around the world were on Victoria and Kingston Heath and they absolutely nailed it. [The courses] easily lived up to their world-class status and the difficult task of setting up both courses to be challenging, but fair, for men and women at the same time was one of the one-percenters Golf Australia nailed."

Regardless of the discussions around whether it worked or otherwise, the crews at Victoria and Kingston Heath played their part perfectly. As Newell notes, it was a massive week and provided a focal point again on the calibre of the Melbourne Sandbelt and the skill of the respective tournament crews.

"It was a big lead-up for us and it was great to finally have it here," says Newell, who hosted seven South Australian Opens during his time at Kooyonga. "It was some four years ago when it was announced that we were going to hold the tournament, so it has always been in the back of our minds. It was a huge effort to get the course to the starting line and I was very pleased with the commitment and efforts of my staff.

"It was big tournament in a lot of ways. It was in the heart of the Melbourne Sandbelt staged at two very successful clubs and there was a lot of expectation that we needed to put on a good show. The fact that we hadn't hosted the event since 2002 meant a lot of people were talking about it and came out to see the course. The club were very keen to have a successful tournament and I think we did all we could to enable that, although it wasn't without its pressures.

"Tournament week was another level. We had a good field, we finally got some good weather and the course was where we wanted it, or as close to where we wanted it to be. It was a really exciting week and I hope it will stay with my crew and the volunteers for a long time, as the tournaments that I have been exposed to in my career have. You don't forget them, especially all the people you meet, so hopefully they have gone away from this with that sense of achievement and that they were a part of something successful."



Victoria qualified greenkeeper Toby Palfrey (left) and Royal Canberra Golf Club volunteer Adam Walker make their pass up the 13th fairway following Wednesday's Pro-Am

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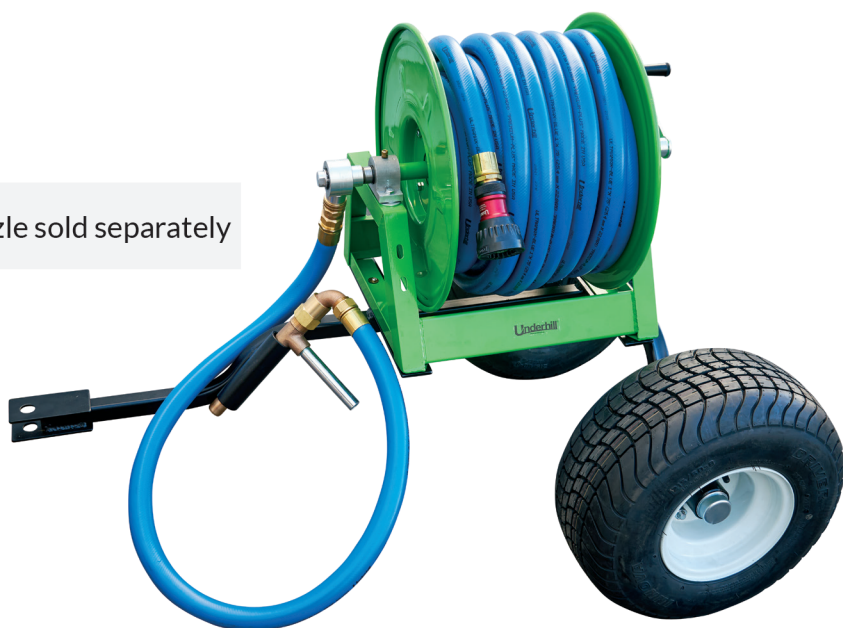
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Preparing for a major tournament starts months, sometimes years, in advance and that was certainly the case for 2022 ISPS Handa Australian Open co-hosts Victoria and Kingston Heath golf clubs. Victoria underwent a major greens and surrounds replacement program between July 2018 and February 2019, with all greens converted to Pure Distinction bentgrass, while in 2019 Kingston Heath added a number of new tees as they prepared to host the 2020 Open which was ultimately cancelled because of COVID.

In the 10 or so weeks leading up to the Open's return to the Melbourne Sandbelt, assistant superintendents Darcy Jones (Victoria) and Tim Hamilton (Kingston Heath) provided detailed weekly updates in the ASTMA's weekly e-newsletter *The Cut*. Here is a rundown of the respective preparations at each course as they geared up to create a slice of history by co-hosting the first combined men's, women's and all abilities Open event.

WINTER WORKS

Victoria Golf Club (VGC): Winter works consisted of bunker renovations (levelling of bases, bunker tongue restoration and repacking of sand under eroded edges). Other programs included *Poa annua* control using pre- and post-emergent herbicides, dabbing with endothal where necessary; re-turfing worn couch areas around tees and paths; tree limb removal; and re-routing sandy wastes to allow easier spectator access at the main entrance.

Kingston Heath Golf Club (KHGC): In addition to ongoing turfing and grow-in works on the new par three Short Course, other projects included the relocation and increase in capacity of KHGC's fairway irrigation tanks, greens collar replacement, minor re-turfing of wear areas and ongoing tea tree management.

TEN WEEKS OUT

VGC: First dust of the new season on the Pure Distinction bentgrass greens. Preventative fungicide and knockdown insecticide applications made on tees, fairways (both Santa Ana couchgrass) and greens, while pre-emergent herbicides applied to control *Poa annua* in all couch playing surfaces. Fertiliser applied on tees and greens to promote recovery, particularly the shaded tees. Greens receiving two cuts a week and one or two rolls depending on weather and competition play.



Collar replacement works at Kingston Heath in April

PHOTO: TIM HAMILTON



Open countdown

Victoria and Kingston Heath assistant superintendents Darcy Jones and Tim Hamilton summarise their respective Open tournament preparations.

KHGC: Following an application of fungicide to all Penn A1 greens, pre-emergent herbicide, insecticides and broadleaf herbicides applied to all fine cut couchgrass (Santa Ana). Those areas being kept at 9mm around once every three weeks at this point, with greens at 2.9mm twice a week and collars 7mm once a week.

NINE WEEKS OUT

VGC: Foliar application of an ammonium sulphate, potassium, magnesium and iron blend fertiliser on all couch areas to continue recovery from winter wear. Insecticide applied to fairways and tees to target larval stages of black beetle. First nitrogen fertiliser application made to greens at a rate of .05 actual N/100m². Disease sample taken from the 3rd green indicates control of low to medium activity of rhizoctonia, anthracnose and pythium. Ongoing work to clubhouse gardens and tea tree management around the 9th green.

KHGC: All greens solid tined with 5mm tines at 2-inch spacings. Wetting agent application to newly replaced collars. Application of pre-emergent herbicide and insecticide on fine cut couch areas completed along with broadleaf spraying. Bunker renovations continue along with minor turfing jobs in selected rough areas.

EIGHT WEEKS OUT

VGC: Tetraniliprole applied to greens to control any present scarab larvae and stem weevil. Greens receive two cuts at 3mm with fairways,

tees and surrounds receiving a single cut at 8mm. NPK granular fertiliser application made to high traffic areas and a foliar fertiliser consisting of an ammonium sulphate blend applied to newly sodded areas. All greenside bunkers weeded in preparation for club champs. Broadleaf spot-spraying in roughs.

KHGC: Last of the pre-emergent herbicide and insecticide applications made to fine cut couch surfaces. This involved spraying around the perimeter of each green with a 2m-wide BA boom sprayer which allowed for controlled application up to the bent/couch interface. Broadleaf weed application to all fairways. Miticide applied to all tee tops and selected wear areas. Spot spraying of weeds in bunkers and broadleaf weeds in collars. All greens received a heavy dusting with kiln dried sand. Bunker renovation and tea tree work ongoing.

SEVEN WEEKS OUT

VGC: Practice range cut, bunkers trimmed and turf tee divotted. Course closure day sees all fine turf surfaces cut and sprayed. Chemical applications include a miticide on tees and worn fairway areas and a PGR (trinexapac-ethyl) and foliar fertiliser on fairways.

KHGC: Nearly 50mm across three days leaves lots of surface water and bunker washouts to repair. Application of wetting agent, nematocide and insecticide to the greens. Bunker weed spraying completed and rebuild of a worn bunker tongue (12th greenside).

Members of the Kingston Heath crew dust the practice putter with kiln-dried sand a month out from the tournament



PHOTO: TIM HAMILTON

SIX WEEKS OUT

VGC: Application of a curative fungicide to treat moderate pythium and rhizoctonia activity following warmer, wet weather. Greens application of NPK fertiliser with trace elements at a rate of 0.1 actual N/100m². Granular fertiliser applied around tees and worn areas and Dynamic lifter applied to all new sod to encourage growth and recovery.

KHGC: Another drenching – 60mm – with remedial tree work necessary due to storm damage. Greens fertiliser application and all rough areas receive an application of non-selective herbicide to provide definition for the tournament. Weak areas of fine cut couch receive a granular fertiliser application and broadleaf weeds on bunker tongues and walkways spot sprayed. Fine cut couch is now being cut once a week, greens three times a week and collars twice.

FIVE WEEKS OUT

VGC: Nearly 40mm of rain over the weekend. Application of propamocarb, trifloxystrobin and tebuconazole to prevent and cure any residual disease activity brought about by the humid, wet weather on the cool-season surfaces. Non-selective herbicide application to mown rough areas for definition and control of *Poa annua* and Parramatta grass. Non-selective herbicide also used to control weeds in fairway bunkers, with some worn walk-in areas on greenside bunkers (7 and 14) repaired.

KHGC: Cotula control undertaken in select areas on fine cut couch. Rough cutting completed. Arborists remove various dead trees and limbs after storms. Application of wetting agent and fertiliser to collars. Greens disease test shows low levels of pythium and drechslera and moderate levels of rhizoctonia following damp and humid conditions.

Victoria experienced its wettest October since club records began in 1985. The 176.5mm total was also the third wettest month overall since 1985

FOUR WEEKS OUT

VGC: Another 21mm takes October 2022 rainfall tally to 176.5mm, the wettest October since 1985 and third wettest month since 1985. Growth regulator applied to tees and fairways once surface water subsides. Bunker washout and path repair following rain. Fertiliser application to greens to encourage continued recovery from pythium and rhizoctonia activity. **KHGC:** October rainfall total comes in at just over 200mm, beating the previous record by 35mm and well above the long-term average of 70mm. Application of fungicide to all greens in response to disease test. Greens given a medium dusting of kiln dried sand broadcast with pedestrian spreaders. Miticide treatment to all tee tops and selected wear areas.

THREE WEEKS OUT

VGC: Greens and surrounds dusted and rubbed in. All greenside and a few weed-prone fairway bunkers sprayed with a non-selective herbicide. Greenside bunkers levelled and windblown sand pulled down from the faces. Sandy wastes on holes 3, 12 and 13 raked and defined. All rough sprayed with a non-selective herbicide to enhance definition between fairway and rough. Greens sprayed with insecticide and a penetrant. Application of plant growth regulator and foliar fertiliser to all bentgrass surfaces to tighten greens and regulate growth. Greens get three cuts, with hand watering becoming necessary.

KHGC: Growth regulator applied to all greens and fertiliser to 25 hectares of fine cut couch (2 HDX-mounted Vicon spreaders and pedestrian spreader used). Wetting agent and fungicide application. After two months, last of the edging of 151 bunkers across course, practice facilities and driving range completed. Member volunteers assist with divotting fairways.

TWO WEEKS OUT

VGC: Another 32mm in two days necessitating water to be pumped from bunkers and repairing washouts. Hospitality build nears completion and tee signage erected. Application of foliar fertiliser, Primo and tebuconazole to all couch surfaces. Fungicide applied to treat minor outbreak of dollar spot.

KHGC: A week of four seasons – 31°C degrees one day, hailstorms, 13°C and 50mm of rain a few days later. Final bunker tongue rebuild completed. Fungicide application to control dollar spot. Final dusting of greens before the tournament and application of iron and colourant to all fine cut couch. Recommencement of bunker edging. Hedging and mulching of clubhouse gardens.

LEAD-IN WEEK

VGC: First six volunteers arrive. Improved weather allows removal of most standing water from heavier areas of the course. Last fertiliser application to fairways and greens receive final application of PGR, fungicide and potassium magnesium fertiliser with a small amount of nitrogen. Full weed and broom of bunkers. **KHGC:** Another 37mm in the rain gauge. All couch surfaces given a final application of colourant and iron. Greens application of growth regulator and also iron and magnesium sulphate. Greens HOC reduced to 2.75mm. Bunker edging completed. Final rough cut.

TOURNAMENT WEEK

VGC: Volunteers arrive Sunday before tournament and jobs allocated. Levelled and pulled sand from bunker faces. Tidied leaves around bunker tongues and collars, divotting tees and fairways with dyed sand. Cutting of all surfaces daily – greens 3mm, fairways and tees 8mm, surrounds 5mm. Greens stimping 11-and-a-half. Greens Clegg mid-120s. **KHGC:** First practice run for tournament set up on Sunday, routings worked out. Interstate volunteers arrive that afternoon. Local volunteers arrive Monday morning, taking crew to more than 50. Second tournament set up practice run completed and timings adjusted (started too early and dew had re-formed on surfaces cut first). By Tuesday, morning set up timings locked in. Afternoon jobs include divotting fairways, handweeding, hand watering greens and selected soft bunkers, collecting Clegg and Stimp meter data and making green sand. Rounds 1 and 2, 5am start. Daily cutting – greens 2.75mm, tees 6mm and fairways 9mm. Clegg reading on greens low 120s by second round. 🏌️



PHOTO: DARCY JONES

Royal Adelaide's Sophie Hamdorph was one of seven South Australian volunteers based at Victoria Golf Club for the Australian Open



PHOTOS: BRETT ROBINSON

Helping hands

With two courses in play and a combined field of more than 280, volunteers played a key role in helping present Victoria and Kingston Heath in tournament condition for the ISPS Handa Australian Open.

From Cairns Golf Club in Far North Queensland, The Cut in Mandurah, WA and as far south as Royal Hobart Golf Club in Tasmania, around 50 volunteers from all parts of the country converged on Melbourne in early December to assist with course preparations for the historic ISPS Handa Australian Open.

They hailed from nearly 40 golf clubs and turf industry companies or organisations, with numbers split evenly between host clubs Victoria and Kingston Heath as part of a coordinated volunteer program set up by both clubs in the lead-up to the tournament. All states and territories, with the exception of Northern Territory, were represented, with the full volunteer contingents arriving the Sunday before tournament week when they were inducted and given their respective duties. Clubs and organisations represented included:

- **Victoria:** 13th Beach, The National, Yering Meadows, Club Mandalay, Metropolitan, Kew, Commonwealth, Sorrento, Latrobe, Keysborough, Heidelberg, Peninsula-Kingswood, Waterford Valley and Woodlands.
- **NSW:** Toukley, Bermagui, Royal Sydney, Thurgoona, The Lakes, Rich River, Manly and Cobram Barooa.
- **SA:** Royal Adelaide, The Grange, Glenelg and South Lakes.
- **Tasmania:** Royal Hobart, Barnbougle, Launceston and Devonport.
- **WA:** Kalgoorlie, Western Australian and The Cut.
- **Queensland:** Cairns.
- **ACT:** Royal Canberra.
- **International:** Paarl GC (South Africa).
- **Companies/organisations:** K&B Adams, SJM and Melbourne Polytechnic. Living Turf, Syngenta, Toro, Brandt (John Deere),

Envu and Colin Campbell Chemicals provided tournament assistance to both clubs, whether in the form of cooking or delivering meals, loaning machinery or providing additional product.

"The volunteers were an enormous help and it was really pleasing to see these guys and girls intermingle with our staff," says Victoria superintendent Steven Newell. "Our staff were excited about having them here for the week. There were a lot of young guys and girls, some really good apprentices, and they are the future of the turf industry. I really applaud them for travelling, some from quite far away, to put themselves out and continue to learn.

"Both Hayden and I were overwhelmed with the response that we got when we put the call out for volunteers. We actually had to stop taking interstate volunteers because we simply couldn't accommodate them. As I said to our group before the tournament, we wanted them to get as much out of the week as possible, enjoy themselves, ask lots of questions and if we could help them in any way to let us know. They were great and we certainly couldn't have presented what we did without them."

With Newell having plied his trade at Kooyonga Golf Club in Adelaide for 19 years prior to taking over at Victoria in 2016, a healthy number of South Australian volunteers journeyed across the border and took up residence at Victoria for the week. Among them were Sophie Warren, a second-year apprentice at Glenelg Golf Club and the daughter of superintendent Tim Warren, as



Luke Burgess ventured up from Royal Hobart Golf Club and was part of the fairway team at Victoria. Four of his Tasmanian counterparts volunteered at Kingston Heath, including superintendents Craig Walker and Scott Reid

well as her Royal Adelaide namesake Sophie Hamdorff. Dave Meadows (Royal Adelaide), Graeme Davidson (Glenelg), Jared Charlton and Lachlan Starr (The Grange) and Josh Koops (South Lakes) also flew the flag for SA.

While there was no 'party hole' at Victoria like there was at Royal Queensland for the PGA Championship a week earlier, there was something of a 'party house'. Eleven of the Victoria volunteer contingent bunked down in one of the club-owned houses adjacent to the course. The house previously had tenants for 20 years and after they vacated the club fitted the place out in order to house the additional tournament staff. "We had to get everything from beds, fridges and couches to plates, cups and cutlery," explains Newell. "It was a little bit cramped there, but from all reports they had a pretty good time."

At Kingston Heath, the tournament crew of 52 was significantly larger than that which prepared the course for its last major tournament, the 2016 World Cup of Golf. Among the volunteer cohort at the Heath were a number of experienced sports turf managers, including superintendents Tim Hoskinson (Cairns GC), Scott Reid (Launceston GC) and Craig Walker (Devonport CC). Walker and Reid made up a contingent of four volunteers from

Tasmania, with Barnbougle duo Jason Quintal and Jonty Mullins joining them at Kingston Heath.

"It was an amazing week," reflects Hoskinson. "Kingston Heath is one of my favourite courses in the world and I felt privileged to have been able to help out their team for the event. The property is absolutely immaculate and Hayden Mead and his team did an incredible job to prepare such fine surfaces. It's easy to see why the course sits so high in the world rankings."

There was also a strong contingent of assistant superintendents, among them Michael Ervin and Jackson Nicholls (both from The Lakes GC), Matthew Foenander (Keysborough GC), Tom Foster (Sorrento GC), Jackson Joseph (Manly GC) and Kane Kerr (Cobram-Barooga GC). Both Foenander and Foster are part of the current intake for the 2022 Future Turf Managers' Initiative, run by the ASTMA and sponsor Jacobsen.

Wanting to get the full tournament experience, Foster and Metropolitan's Sam Brown split their time equally between both courses. After helping out at Kingston Heath for the opening two rounds, they then headed across to Victoria for the tournament's closing rounds.



Jackson Nicholls (The Lakes) was one of a handful of assistant superintendent volunteers at Kingston Heath

If you discount the two Irish and two French seasonal greenkeepers on the Kingston Heath crew, winning the award for travelling the furthest for the Open was Wynand Viljoen. Hailing from Paarl Golf Club just outside of Cape Town, South Africa, Viljoen works for Servest, a course management company which oversees maintenance at the 27-hole course. Viljoen is good friends with Victoria GC general manager Antonie Els who has been at the club since July 2021. As part of his duties for tournament week, Viljoen shadowed Victoria assistant Darcy Jones during course set up and also worked on the bunker crew and divotting teams.

For Kingston Heath's French seasonal greenkeeper Simon Richalot, who joined the crew in October for a six month placement, the tournament was one to remember. Posting on LinkedIn Richalot noted: "The Australian Open was an amazing tournament to be part of. It was my first tournament on a Sandbelt course and despite the tough weather Kingston Heath was looking amazing with some firm and fast greens. In the last few weeks the whole team put a lot of hard work to be able to reach this level of perfection and I feel really lucky to be one of them. It was a week that we will remember for a long time."



Above: David Hurst cuts fairways at Kingston Heath on one of two John Deere units loaned by Brandt
Right: Members of the Kingston Heath GC Open crew



PHOTO: TIM HAMILTON



PHOTO: DARCY JONES

December's ISPS Handa Australian Open was an unveiling of sorts for Victoria Golf Club. Between May 2018 and February 2019, the club embarked on one of the biggest periods of course works in its history. During that time, a new Toro irrigation system was installed, all greens, surrounds and tees were resurfaced and architectural changes were made to a number of greens and greens complexes.

From an architectural perspective, three greens (5, 12 and 17) would be completely reconstructed in a bid to recapture their former glory. Three others (6, 11 and 13) would maintain their contours but have the severity of their slopes adjusted to allow for more pin positions. From an agronomic perspective, Victoria would convert all its greens to Pure Distinction bentgrass, becoming one of the first adopters of the new variety alongside the likes of Royal Canberra, Peninsula-Kingswood and Killara. Running in conjunction with that, all of the existing cool-season surrounds and tees were converted to Santa Ana couchgrass as part of an overall strategy to help keep *Poa annua* out of the new greens.

Irrigation installation began in May 2018 and was completed in time for the start of the greens resurfacing and redesign works in early August. The first major component of the works was the sod cutting and removal of 7.5 hectares of existing green, surrounds and tees

Pure surfaces

Victoria Golf Club's Pure Distinction bentgrass greens were a standout at the recent ISPS Handa Australian Open. ATM editor Brett Robinson talks to superintendent Steven Newell about their management requirements and how they presented for the week.

turf, before 60mm of thatch was removed from the greens and 30mm from the surrounds. A compatible sand was imported to restore desirable levels, with OCM director Mike Cocking then reinstating the surface contours.

After irrigation was installed and the surfaces fumigated, the greens were

hydroseeded with Pure Distinction at a rate of 1kg/100m² along with a starter fertiliser. Depending on soil temperatures, germination ranged from 12 days in September to just five in November. The first six greens were sown in September and mown initially at 6mm after four weeks. The last six greens were sown in November and received their first mow at 3mm after three weeks, allowing 14 weeks to establish before their February 2019 opening. With the surrounds and tees, a total of 7ha of Santa Ana couchgrass sod was laid, 3ha harvested from Victoria's fairways and a further 4ha purchased from the old Kingswood Golf Club site. (For a full rundown of the course works, see *ATM Volume 21.4, July-August 2019* – 'Victoria unveiled' – pages 18-23.)

ALWAYS LEARNING

With the greens down now for four years, Newell has had plenty of time to get accustomed to their requirements and idiosyncrasies. From thatch management and renovations to *Poa annua* management and disease tolerance, the years leading up to the Open's return this December have enabled Newell to build up a significant arsenal of knowledge. Despite that, he is quick to note they are still learning every day and that attaining a perfect recipe for their management is almost impossible, especially with the fickle nature of the Melbourne weather in recent times.

Opposite: The distinctive lime green natural tones of the Pure Distinction bentgrass greens provided a striking contrast with the darker Santa Ana couchgrass fairways, surrounds and tees during the Open. Pictured are the 15th (left) and 10th greens

Thatch management was always on Newell's radar even before the greens were sown and ever since they germinated it has been one of his biggest considerations. Conscious of the Pure Distinction's potentially aggressive nature, Newell says that as soon as they could get a machine on them, dusting became a critical part of their greens management practices. That has remained a cornerstone right through until the present day, although this past spring saw probably the least amount of sand applied due to the horrid run of weather, something Newell was planning to rectify post-tournament.

"We dust a lot and we track the organic accumulation in the profile every year," states Newell. "My philosophy is if we are ever in doubt as to whether we should dust or not, we dust. Our dustings are dictated by the growth of the turf and can be as often as weekly but more often fortnightly. If I'm looking at the canopy, I want to see sand. If I don't see sand then we need to dust."

"It's not always popular – it wasn't popular when I did it at Kooyonga and it's not that popular here – but it's what we need to do to maintain these surfaces. Maybe I have been a little bit overboard at times. There is that balance between playability and golfer enjoyment and the long-term management of the turf and I am very mindful of that."

Fertility is another aspect that Newell has learned more about as the greens mature and again it is all about finding the correct balance and being judicious with their approach.

"We have learnt that basically starving the Pure Distinction is not the way to go," explains Newell. "When it's under-fed we see more disease in the turf, so there's a balance there of just enough to keep the turf healthy without promoting excessive growth and thatch. We regulate the growth through sanding. We don't normally use any growth regulation, instead we rely on the sand to do that for us."



With the Pure Distinction down for four years, Newell has become attuned to its requirements and idiosyncrasies

Since their opening, Newell hasn't hollow cored the greens and says he is endeavouring to hold off doing so for as long as possible. Instead, the greens are solid-tined annually using small diameter tines to a depth of 100mm and in recent times an Air2G2 unit has also been put across them. After experimenting with it in the earlier days, the greens aren't groomed at all as that pulls the sand out of the canopy. Newell says they find the turf grows upright through the sand and that has been enough – "It's fairly simple and the way we like it."

Disease-wise, root diseases like rhizoctonia and pythium are the two main antagonists Newell has to manage, with it rare that anything presents itself in the leaf. Fungicides will only go out when there is a positive ID first, so they know what they are targeting and whether to target the application in the crown or roots.

"I would prefer to be using less fungicide," admits Newell. "But the pressures these days to have very good turf 365 days a year, you have to be very mindful that it's difficult to recover turf with so much play, so you need to be on top of that. For the most part we are and we have our thresholds when it comes

to disease. Ahead of the Open we had some minor issues with rhizoctonia and pythium due to the humid and wet weather, so we had to make sure we kept fungicides up and active in the profile."

IN CHECK

From a *Poa annua* management perspective, the greens haven't had any harsh control chemicals applied and if any *Poa* does appear it is hand-weeded. Newell admits they may have lost a little ground in the lead-up to the tournament because they were promoting the turf in different ways, but you would still be hard-pressed to find any rogue plants if you went looking.

"If there's a piece out there, I'll go and get it," states Newell. "They're pretty good. With the tournament finished we will be conscious of going out and having a real thorough look and pick out any we see. We hope to maintain that philosophy for as long as we can, knowing that while it might not be sustainable, we want to do it for as long as possible before we have to contemplate any chemical removal."

The conversion of the cool-season surrounds to Santa Ana couchgrass as part of the course works has played an integral

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PHOTO: BRETT ROBINSON

A single cut at 3mm was all that was required to get Victoria's greens to the desired green speeds, with firmness readings around the mid-120 gravities

role in that quest to keep the greens *Poa* free. As mentioned, 3ha of Santa Ana came from Victoria's own fairways, while 4ha came from Kingswood, something which while necessary to complete the job did come with a few uncertainties.

"It was important that we removed all the cool-season turf surrounding the greens and tees and replaced it with Santa Ana matching our fairways," explains Newell. "Harvesting sod from our fairways saved thousands of dollars, but we needed that additional turf from Kingswood. We were fortunate that it was available at the time, and we weren't going to knock it back, but I did have some initial concerns.

"Kingswood was one of the first golf courses in Melbourne to convert its fairways to pure couch and therefore any *Poa* on the property had had the longest exposure to chemicals and the potential to build up resistance. We were very mindful of importing any resistance issues. We knew where we laid the Kingswood turf and kept a close eye on it.

"Thankfully we didn't have any major problems and any minor issues that did crop up we got on top of quick. Anything that looked like it was resistant we eliminated. We use very little post-emergent herbicide on the golf course, but do a lot of dabbing of individual plants. We have found that very effective in pretty much eliminating the *Poa* plants.

"As for the Santa Ana overall, it has worked really well. It wasn't my decision to go with it, but I am thankful the club did. In my opinion it is the best suited couchgrass to this region – it's tried and tested, has good disease tolerance and you can use chemicals on it fairly confidently. It also produces a great surface which the members like."

CONTRAST FOCUS

While the weather provided many challenges in the lead-up to the Open – Victoria recorded its wettest October since 1985 – the greens surfaces which did present were, as their name suggests, pure. A single cut at 3mm was all that was required to get them to the desired green speeds, while firmness readings were up around the mid-120 gravities on the Clegg.

One of the unique attributes of Pure Distinction is its distinctive lime green colour and it certainly provided a striking contrast with the darker Santa Ana couch, something that Newell wanted to highlight for the tournament.

"That was a big feature and we wanted to highlight the colour of the Pure Distinction," says Newell. "We didn't trick it up with any colourants or iron, rather we wanted to exploit its natural tones against the Santa Ana which we did promote with colourants and iron. So we were mindful of that contrast and wanting to set the greens apart and I think we achieved that nicely." 🌱



PHOTO: DARCY JONES

Regular dustings have become a cornerstone of Newell's greens management practices



PHOTO: DARCY JONES

Victoria's new 17th green complex, one of three to undergo major changes during course works in 2018

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Royal Queensland doubles up

Just 10 months after hosting a rescheduled 2021 Australian PGA Championship, the crew at Royal Queensland Golf Club teed up again for the 2022 staging of the tournament in late November.



Royal Queensland (RQ) course superintendent Adam Mills admits he is a worrier and about two weeks out from the return of the Fortinet Australian PGA Championship this past November, he was starting to have an uncomfortable feeling. With the big names of Australian golf set to arrive in a few weeks' time – including the highly anticipated return of Australian golf's man of the moment Cameron Smith – it wasn't exactly what Mills needed.

Having hosted the rescheduled 2021 PGA just 10 months earlier in mid-January, Mills knew the return event was going to be much bigger and, for the most part, everything was seemingly in place.

A month earlier, he and the RQ crew had moved into a brand new maintenance facility, a far cry from the cramped and dated confines of the previous structures. Out on the course, the Queensland blue couch tees and fairways had bounced back after a full renovation and were in their healthiest condition for a long time. And with COVID a distant memory, Mills was looking forward to welcoming a strong volunteer contingent for the tournament, some of whom were journeying from interstate to assist for the week.

What was causing Mills to fret a fortnight out, however, were RQ's 328 couchgrass greens. Having received a lighter-than-normal renovation at the end of September – about eight weeks out from the tournament – in the

weeks following they decided to take a holiday. Mills would end up deducing a number of reasons why they were slow to come back after renovations and it wasn't until the Monday of lead-in week that they started to finally wake up, much to Mills' relief.

Fortunately they only got better and better and by the time Smith completed a dream homecoming by claiming his third Joe Kirkwood Cup by three shots, they had played and presented flawlessly. As Mills will attest, just five years into his journey as a superintendent he is still very much learning and that little experience with the greens was yet another one to file away in the memory banks for when the tournament returns for a third time in late 2023.



Royal Queensland's 18th green which on the Sunday of the 2022 Fortinet Australian PGA Championship saw hometown hero Cameron Smith claim the Joe Kirkwood Cup for a third time

TOURNAMENT COUNTDOWN

As works to the maintenance facility continued throughout winter and into early spring, Mills' focus switched to planning for the tournament. The course was in a good condition coming out of a relatively busy winter golf-wise, with renovations locked in for the last week of September. With the support of the club, the course was closed for a four-day period and contractors brought in to core RQ's expansive fairways and tees, using 19mm hollow tines to a depth of six inches. It was the first time that Mills had used contractors to do the job, but it sped up the process immeasurably and enabled the crew to focus on renovating the 328 greens concurrently.

While he was able to do a full renovation on the greens last October given the 2021 tournament had been pushed out to January, Mills had to tread more lightly on this occasion. Unable to renovate following the January tournament, by the time spring rolled around the organic matter percentages which are closely monitored had risen above desired levels. Mills likes to maintain that figure around the four per cent mark, but testing ahead of renovations showed percentages above seven in the top 20mm of the profile.

With a desire to still remove around 40 per cent of organic material but not disrupt the surfaces too much, Mills first scarified at a 5mm depth in an east-west direction before using triplex-mounted Maredo GT230 HiSpeed Corer heads with 6mm hollow tines in a north-south direction to a one-inch depth. After being fertilised and topdressed, an Air2G2 unit was also put across the greens. With eight weeks before the tournament Mills was confident there was plenty of time for the greens to bounce back quickly, however, that wasn't to be the case.

"They just sat there and it really wasn't until the Monday of the week before the tournament that they started to respond," reflects Mills. "Up until that point I was quite worried about them. But that's what you love and hate about turf – there's always something every year that will get around your programs.

"I think it was a combination of things that prevented them responding. We have had a really wet couple of years, but heading into the tournament we had a very dry 6-8 week period. That meant we had to start irrigating with our effluent water which the turf hadn't been used to for a while. The quality of that water isn't the best – 300ppm sodium, 350ppm bicarbonates and 400ppm chlorides – so maybe there was a build-up of that in the profile.

"As part of our disease testing, a week after renovations we had results come back

A BUSY YEAR

The second of RQ's three contracted PGAs capped off a busy 2022 for Mills and the crew, one which started and ended on significant highs with the hosting of the two tournaments. January's PGA saw Jed Morgan, a former member of Mills' crew, claim a record-breaking 11-shot victory on his home turf. No sooner had the tournament finished, works then began on a new maintenance facility which would consume much of the next six months.

Although experiencing nowhere near the damage of those courses further up the Brisbane River, Royal Queensland was impacted by the weather events that hit the region in late February/early March. In what was a new experience for Mills, a number of

holes adjacent to the river – 5-8 and 15 – were inundated to varying degrees at high tide. Some areas remained under water for three days, with Mills and his team, together with an army of member volunteers, having to clean up minor silt deposits and a mountain of debris.

In autumn, Mills and the team began construction of a new tournament tee on the par five 7th, complementing previous works on other holes. In 2021, tees on 3, 5 and 9 were extended and expanded, but because of a wet second half to the year and the 7th tee's river bank location, getting heavy machinery out to it would have caused a lot of damage. Work was instead carried out this April and May, giving the crew plenty of time to grow-in the new tee which added an extra 30m to the hole.

WORDS AND PHOTOS: BRETT ROBINSON



Royal Queensland superintendent Adam Mills (left) records green speeds ahead of the opening round

showing some presence of ERI fungi. We weren't seeing decline visually but it was definitely present in the rootzone and with the tournament not far off I didn't want to take a chance. We applied a fungicide which had a DMI in it, so maybe that had a bit of a growth regulatory effect as well. We also had some cool conditions during that time, with some very cool November mornings which is unheard of. But as soon as the temperatures warmed up and we got some decent sunlight on the surfaces, they started to come right."

Once they kicked in, Mills applied Primo at 500ml/hectare the Wednesday before the tournament and then again the Sunday before at the same rate. Although he would normally go out higher, Mills deliberately pulled back the rates because no applications had been made previously due to where the greens were at. He wanted to get some in the plant initially without shocking it too much, before going back out a second time. The split application worked well and come the tournament the greens were smooth and rolling beautifully.



McLeod CGC superintendent Craig Clarke (right) was back to assist with preparations for a second time, forming part of one of the fairway crews which included fellow volunteers Dion Cope (middle) and Chris Redshaw (back)

"I think overall we ended up having the surfaces dialled in better than we did in January," states Mills. "The fairways and tees were the healthiest they had been following that renovation and meant we could push them a bit harder. With the greens, all our data suggested they were on a par on day one with how they were on the last day of the January tournament. We had some good firmness in the greens – they were between 125-135 on the Clegg compared to about 110-115 last time – and we only needed a single cut and a roll to get the desired 11-and-a-half feet on the Stimpmeter. The greens rolled true and the feedback from the players was very positive."

RAISING THE STANDARD

While the timing of tournament was different and back to its more conventional spot on the Tour calendar, the biggest change for the RQ crew was the brand-new maintenance complex which they operated out of for the week. A long time in the making, construction of a new facility began just 10 days after the January

tournament had finished, with staff moving into the new buildings six weeks ahead of the November event.

Built adjacent to the old structures which still remain, the new compound comprises a large 500-plus square metre machinery storage shed as well as a separate (and spacious) staff amenities block. Mills' assistant Michael Todd and foremen Tim Peters and Luke Bonner have dedicated office space, while the large lunchroom can comfortably accommodate an increase in staff come tournament time. Such improvements have helped to improve not only comfort levels for the crew but vastly improved day-to-day efficiencies.

A new maintenance facility had been in Mills' sights ever since he took over as superintendent in June 2017 and after plenty of discussions with management the green light was given. Mills did some extensive due diligence to come up with a compound that would work for him and the crew and also with future course development in mind. To that end Mills toured a number of clubs – among them The Australian, New South Wales, Royal Sydney, The Lakes and Sanctuary Cove – to get ideas on what worked and what didn't.

"We looked at a number of options," says Mills. "We had the mentality that if we wanted to be an elite course then that needed to be reflected across the whole property – front of house and back of house – and the old facilities simply didn't meet that. We did a lot of work around where the site should be, particularly in regards to the potential for further development. I worked with a draughtsman on how I thought it should flow, what we were trying to achieve and building in contingencies for the future."



Lincoln Morgan, one of four casual crew members who play in RQ's men's Pennant team, cuts the 16th tee



Royal Queensland's Jarod Todd, son of assistant superintendent Michael Todd, cuts the 6th green at 3mm. Greens only required a single cut and roll each morning to attain the desired speed of 11-and-a-half on the Stimpometer

"The new compound has enabled us to reset the way we go about things. Operating in the other shed, it was difficult to use the management team effectively. Now they have their own office space and it has certainly helped to improve efficiencies. Sometimes a lot of the course stuff is in my head which is great, but not for anyone else. Now I can put my thoughts down in an email and send it to the guys. I think it has really made us sharper as a team. And from a machinery perspective we now no longer have to move everything out to get to equipment or store stuff outside."

EXCITING TIMES

That 'future' which Mills alludes to is set to be intriguing and one which will put RQ on a pedestal. With Brisbane being announced in July 2021 as host city for the 2032 Olympic

Games, RQ was named shortly after as the Games' golf venue. The club will become the first in Australia to attain Olympic status and to befit the occasion it has plans to undertake some significant course works. Chief among those will be the conversion of all playing surfaces to newer couchgrass varieties, with the 328 greens most likely to switch to TifEagle. Mills currently has trial plots of seven couchgrass varieties under consideration for the fairways, tees and aprons.

In 2020, not long after the club was selected to host the Australian PGA Championship, course architecture firm OCM was engaged by the club to continue to refine the course design from its 2007 remake, as well as make improvements for tournament play. In addition to likely tweaks on the championship course ahead of the Olympics,



Royal Queensland crew member Alan Morley rolls the 3rd green ahead of the opening round

OCM has also come up with concept drawings for a spectacular new Short Course.

Although the club lost six holes of the original championship layout due to the duplication of the Gateway Bridge in the mid-2000s, the club still has custodianship of that 35-hectare parcel of land on the eastern side of the bridge. The club had considered a number of options for the site, including a Top Golf style set-up, but opted to explore the addition of a Short Course, complete with a Himalayas-style putting green and spectacular new riverfront pavilion.

Like it did with its concept drawings for Kingston Heath Golf Club's soon-to-be-finished Short Course, OCM teamed up with Harris-Kalinka to create a video render and flyover of the proposed layout (view it at <https://harriskalinka.com/work/royal-queensland>).

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Brendan Hansard was one of five interstate volunteers

The result is quite spectacular and highlights a unique layout which includes, among other features, an island green. While there are still lots of hoops to jump through before ground is broken, Mills says the club is hopeful of an opening some time in 2025.

TOURNAMENT TEAM

RQ's crew of 19 was bolstered by around 20 volunteers for November's PGA, with a number journeying from interstate to assist Mills and Todd. Experienced superintendent and regular tournament volunteer Brendan Hansard came up from Kew Country Club, NSW, while former FTMI graduate Martyna Synak made the trip from The Lakes in Sydney where she is 3IC. Markus Mader (Royal Adelaide GC) and Jamie Gibson (Glenelg GC) flew the flag for South Australia, while Joel Patterson ventured down from Palmer Sea Reef in Port Douglas to assist RQ turf technician Peter Hamilton.

As well as the interstate visitors, RQ was again ably supported by a strong turnout of volunteers from Brisbane area courses.



Royal Queensland foremen Luke Bonner (left) and Tim Peters (right) were on course set up for the tournament

Superintendents Dion Cope (Redland Bay GC) and Craig Clarke (McLeod CGC) backed up for a second time, forming half of one of the fairway crews which also included Cope's Redland crewmate Chris Redshaw. Redcliffe Golf Club was represented by assistant Matt Kelly (a former RQ staff member), Gary Hughes and superintendent Mark Stanley, the latter coming on board for the final two days.

Volunteers also came from Brisbane and Brookwater golf clubs, while Toro's Ben Marshall and Envu's Wayne Ryder also pitched in. The crew were fed each morning by the Greenway Turf Solutions team, with Toro providing additional equipment and technician support and Syngenta likewise with product.

For the tournament, the greens were walk-mowed by a team of six at 3mm and then followed up with a roll. Two teams of four units cut the fairways at 11mm, while Bonner and Peters were charged with daily course set up. A team of four (two on each nine) took care of RQ's aprons and unique rectangular tees which were cut at 7mm.

Among those assigned to that latter duty were three casual members of the crew who also form part of RQ's men's Pennant team. Max Ford, Lincoln Morgan (the younger brother of 2021 PGA champion Jed) and James Mee were tasked with that role, however, Mee was a last minute withdrawal. The former RQ club champion managed to secure one of the last remaining spots in the tournament draw after winning the Monday qualifying event at Keperra.

Despite having home track advantage and the entire maintenance team barracking for him – the crew had written 'Win PGA' underneath his name on the job allocation board in the lunchroom – Mee unfortunately missed the cut and found himself back on the end of a bunker rake following the third round.

"They (the volunteers) were outstanding," says Mills. "Last year was restricted due to COVID so it was great to welcome the guys back from down south, especially given we had the new maintenance facility too. They were a great group and we had a good mix of experienced guys and some enthusiastic apprentices. They all had that passion and drive and I couldn't have been more impressed with the way they fitted in and did their jobs."

"I also have to give a big shout out to my crew. RQ is a big place and they put in a huge amount of work in the lead-up to get all the finer detail work done so we could concentrate on conditioning in the final two weeks. It meant they were really able to enjoy the tournament week, especially with the calibre of the field we had and the crowds which turned out. The crew were fantastic and I was very pleased with how everything came together."



Royal Queensland's Brett Nicol gets into the spirit of Friday's 'Yellow Day' in memory of Jarrod Lyle

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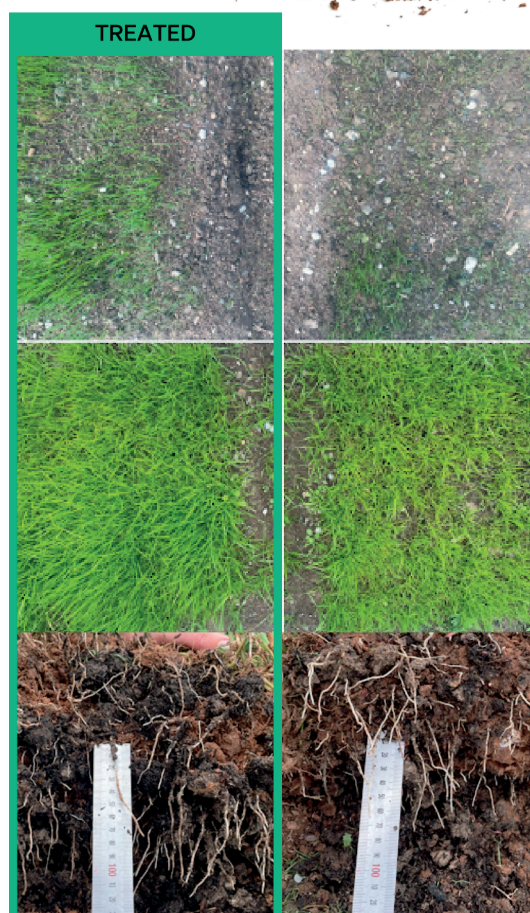
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Thurgoona superintendent Dean Lewis (centre) and his crew (from left) of Charlie Williamson, Jason Berkhout, Mitch Tame and Charlie Borella were the toast of the NSW Senior Open

PHOTOS: GOLF NSW AND DEAN LEWIS

Thurgoona's 'Dean' team

Thorough planning and some good, old-fashioned elbow grease. Ask Thurgoona Country Club Resort course superintendent Dean Lewis (CSTM) what got him and his crew through a challenging NSW Senior Open this past October, it was certainly through no stroke of good fortune. Instead it was a combination of preparing for all eventualities given the ordinary conditions they had to contend with, as well as clocking up some serious hours and putting in when it mattered.

As the NSW Senior Open returned to Thurgoona from 28-30 October following a two-year break due to COVID, the weather was by far the big talking point. At that juncture, large tracts of eastern Australia were being hammered again by rain and floods, continuing a theme which had started earlier in the year along the country's eastern seaboard. Thurgoona, located a few minutes east of Albury in NSW, was one of many golf clubs and turf facilities in the region to be impacted, but complicating matters for Lewis was the fact they also had a tournament to prepare for and host.

Led by course superintendent Dean Lewis (CSTM), the crew at Thurgoona Country Club Resort more than earned their share of compliments after hosting the NSW Senior Open in late October seemingly against the odds.

Thurgoona certainly copped its whack. For the months of August, September and October, Lewis recorded up to four times the average monthly rainfall, taking their annual total to more than double for that time of year. It started in August when Thurgoona recorded 110mm, 42mm more than the average, while September's 144mm was two-and-a-half times the average. October was the kicker, however, with the usual average of 53mm obliterated with a total of 198mm, while following the

tournament the course would receive another 200mm for November when its usual average is just 62mm.

The course would experience four minor floods and a major flood the Friday before the tournament started. The normally sedate Eight Mile Creek which flows through the course turned into a raging torrent. Significant rainfall combined with additional stormwater feeds from surrounding residential areas saw large parts of the course become inaccessible, with water flowing over some of the bridges that sit up to four metres above the usual creek level.

As well as creating accessibility issues for Lewis and his team, bunkers were either submerged and/or washed out, while there was an inordinate amount of silt and debris deposited across fairways. Washouts surrounding the new concrete paths and within freshly landscaped areas created further debris, but thankfully no greens were inundated despite some coming close.

"I've seen a few floods in my eight or so years here," reflects Lewis. "January (2022) was probably the worst when we had 100mm in half an hour. That was water I never thought

I'd see, ever. But the couple of weeks before the tournament was definitely one of the higher ones, especially across a general area. Because everything was already saturated and every dam and catchment was full, there was just nowhere for more water to go. Six to eight millimetres felt more like it was 20-30mm."

ALL IN THE PLANNING

To be able to get the course up despite the weather being seemingly against them at every turn, was a testament to Lewis's forward thinking and making sure that contingencies were in place. It had already been a busy year for the crew leading up to the tournament, with a new practice chipping green and bunker constructed (which opened the week of the tournament) and installation of 1.5 kilometres of concrete paths connecting greens to tees. Those paths would ultimately prove invaluable with the weather that would come Thurgoona's way.

Despite the couchgrass fairways and tees coming out of winter dormancy and greening up nicely with some extra fertiliser applications, the increased rainfall and lack of sunny days to push along soil temperatures did create some initial problems. Renovations of the playing surfaces were also hampered at times due to the weather, but once completed and the surfaces started to respond, Lewis and his crew were able to focus on the finer details of tournament preparation. The greens recovered



After a wet August and September, October saw Thurgoona record 198mm of rain, four times the monthly average

well after their renovations, with a couple of light dustings and grooming ensuring they were ready as the tournament approached.

The crew had also spent a significant amount of time in the bunkers, with more than 250 cubic metres of sand added. This not only improved their playability and consistency, but also provided a buffer should they get damaged by the weather. A lot of time was spent tyre-rolling the faces as much as possible to pack the sand in and minimise the likelihood of any washouts.

"Planning was crucial and while I have previously planned the schedule for this tournament in other years, this year was

completely different," says Lewis, who will notch up his ninth year in charge at Thurgoona in February. "I needed to devise a program of timings with secondary deadlines and options to push preparations as close to the tournament deadline as possible. Ultimately I had no control over the weather conditions, so I needed to adjust my expectations and focus on what could be achieved.

"The cultural program was built around having the correct nutrients to provide healthy turf instead of requiring wetting agent to retain moisture. Penetrants were employed to remove surface water and growth regulators used to provide tighter, more upright growth.

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A significant amount of time was spent adding 250 cubic metres of sand to bunkers in the tournament lead-up

The growth regulator also played an important part of the puzzle if we were unable to mow areas due to the wet conditions and these were applied to all mown turf areas.

"We knew by the long-range forecasts what was coming, so we planned for the worst and hoped for the best. Our small team stood up when I needed them to and we had to make the most of any opportunity when conditions were dry. The guys were all well aware that if we were lucky to get a couple of dry spells we'd go hard and get extra cuts in. Ten to 14-hour days any day of the week became the norm so we could mow when the conditions were favourable."

HERCULEAN EFFORT

Lewis's planned schedule for the tournament included daily cutting of fairways, tees, surrounds and greens, rolling greens, raking bunkers daily and cutting rough once. All that was thrown out the window, however, starting the Saturday before the tournament. The course received 24mm that day followed by a further 14mm on the Sunday and then another 32mm over the next five days.

With that precipitation hampering preparations, Lewis and his crew switched their focus purely to the greens, mowing and

rolling them daily. Bunkers remained unraked until the final day because they were simply too wet. Tees and surrounds remained as scheduled, but due to numerous wet areas the fairways were unable to be cut for the whole tournament.

While the incessant rain provided a major dampener, most of the rain that fell during the week did so at night and didn't affect either practice or tournament rounds. The players just made the most of the wet surfaces (with preferred lies on fairways), but the greens were not impacted. There was also just a little bit of good fortune as no sooner had Richard Green putted out on the 18th on Sunday to claim the title, Thurgoona received another 70mm of rain in the following 48 hours which would put the course under again.

Despite the challenging conditions, the surfaces that Lewis and his crew provided for the three rounds were more than well received. The greens, in particular, received the highest praise imaginable, with first-round joint leader Euan Walters calling them phenomenal and even suggesting that he "would pick them all up and take 'em" everywhere if he were able. Covering the event was respected golfing journalist Mark Hayes who was similarly glowing in his praise of Lewis and his crew,

penning the following in a report that appeared on the Golf NSW website:

"Before we get started on the Herculean efforts of the groundstaff at Thurgoona, please understand that all involved at this week's NSW Senior Open are acutely aware that this is a golf tournament, not life and death," Hayes wrote. "Our sympathies and best wishes to all around not only NSW, but the entire country dealing with unprecedented rainfall. That having been said, wow! The seasoned professionals of the Legends Tour are, almost to a man, walking off this 80-hectare property offering their plaudits for a layout that is defying the odds..."

"While we'd like to bring you news of some magical cure the host club has employed to achieve this, the truth is it's about nothing more nor less than pure hard yakka. The dedication of the five-strong – yep, only five – grounds crew at Thurgoona has been exemplary because, as in just about every postcode in eastern Australia, those around Albury are dealing with extraordinary rainfall."

Such plaudits and compliments helped to keep the spirits of Lewis and his team high and made the long hours all worth it.

"To hear some of the players, who are legends of Australian golf, say such nice things about our greens made us really proud – me, my team and hopefully the club. I did my job and the boys did theirs. But it was also great knowing that we were doing it for the club, for Albury and Wodonga and the surrounding areas. I'm proud it was a showcase for our region and that those players left here talking about it (so fondly) was great for us all.

"It was also great to be able to showcase the time and effort that greenkeepers put in. A lot of people forget that it (the course) is a living, breathing organism and that we run it on a knife's edge all the time. It (can be) quick to fall off that edge, so you put your heart and soul into it and it's definitely something you're proud of when people talk about it in the sort of manner they did for the tournament. The boys all walked a bit taller after hearing that.

"The guys did a great job and I cannot thank them enough for all the extra time and care they poured into it. I might steer the ship, but they do all the grunt work to make it happen. It makes you super proud when our two apprentices, who had never experienced a tournament before, can go out and achieve what you ask them to do. I hope they took a lot out of this experience."

Editor's Note: This article has been adapted from Mark Hayes' piece titled '*Kudos rains on Dean and the team*' which was published on the Golf NSW website on 29 October 2022. ATM thanks Golf NSW for their assistance. 🌧️



Thurgoona would experience four minor floods and a major flood the Friday before the tournament started

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Kim Kennedy is a qualified sports turf manager and full-time crew member at Kingston Heath Golf Club on the Melbourne Sandbelt

In the second in our series of 'Women in Turf' profiles, ATM catches up with Kingston Heath Golf Club qualified sports turf manager Kim Kennedy.



Kim Kennedy

Kingston Heath GC, Vic

It was the winter of 2017 when Kim Kennedy first arrived at Kingston Heath Golf Club on the Melbourne Sandbelt, embarking on a sports turf management apprenticeship. Already a talented golfer in her own right, who earlier that year tasted success as part of Commonwealth Golf Club's flag-winning Women's Division 1 Pennant team, Kennedy joined the crew under course superintendent Hayden Mead and, in her own words, hasn't looked back.

By the start of 2021 she had completed her Certificate III in Sports Turf Management through Holmesglen TAFE and duly joined Kingston Heath's qualified ranks. During her apprenticeship she volunteered at the 2019 Presidents Cup at Royal Melbourne, one of the highlights of her career to date, and just recently spent a week at Blundstone Arena

in Hobart on a work placement as part of the ASTMA's Women in Turf Strategy.

Kennedy, now 26, has become an integral member of the Kingston Heath crew in the five-and-a-half years there and at the recent ISPS Handa Australian Open was put in charge of the bunker crew which numbered as many as 15. Given Kingston Heath's famous hazards number in excess of 150, it was a critical role for the tournament and as Mead attests Kennedy's acute eye for detail meant she handled the job with aplomb. Kennedy is this edition's 'Women in Turf' profile focus and ATM thanks her for taking the time to answer the following questions...

Talk us through your background and how you got into sports turf management. I first began to think about a life in turf management

when I was working as a retail assistant in the pro shop at RACV Healesville. At the time they were undertaking some course works, mainly line planting fairways with Santa Ana couchgrass, and I was interested in the process and always asking the staff how it was progressing. I had seen and known a few women in turf management through playing golf around the Melbourne Sandbelt, so I began by speaking to a few people in the industry and emailing my resume to some clubs with no avail.

I then saw an ad for an apprenticeship position at Kingston Heath Golf Club and applied. Everything moved really quick and just a few days after the interview I was offered the position. I hesitated briefly before accepting the job and started within a fortnight. I haven't looked back.



You alluded to this with your previous answer that you are an extremely accomplished golfer. Talk us through your achievements out on the course. My passion for golf definitely had an impact on my career path. My golfing days started at Warburton Golf Club in late 2010. Warburton is a picturesque 18-hole country course in the Yarra Valley outside of Melbourne. It will always be my home. I am a seven-time club champion and my current handicap is 3 (the lowest I have been is 0.8 in 2019).

In late 2012 I received an invitation to play a round at Commonwealth Golf Club with the objective of joining their women's Pennant team. At that stage I didn't know the exclusivity of the Melbourne Sandbelt but was gracious in acceptance and was invited to join the team for the 2013 Pennant season. Ironically I played my first round of Pennant at Kingston Heath and won 7/6, a day I will never forget.

In that first year at Commonwealth I won the women's club championship and successfully defended it the following year. I have been a part of Commonwealth's Pennant success in the past nine years, having played in four of five Pennant finals. I was a part of the winning team when Commonwealth made Golf



Kennedy (pictured bottom) was part of Commonwealth GC's victorious Women's Div 1 Pennant team in 2017

Victoria history by winning all three Division 1 Pennant flags (Men's, Women's and Colts) in 2017. Unfortunately due to COVID we missed the 2020 Pennant season and I have missed the 2021 and 2022 seasons as well due to playing my new found love – cricket! However, I am looking forward to finding form and playing the 2023 season.

Who have been the biggest influences/mentors in your career to date? From a professional point of view there are a few members of staff present and past that have influenced my career. However, all of the staff at Kingston Heath are great with teaching and staying patient. I think while most of the work we do is straightforward, you need the confidence to go out the first time and the team are really good with that. There is also a lot of opportunity to develop hands-on skills through courses for heavy machinery and equipment. Hayden is really good with making sure we have access to the skills we need.

From a general perspective, my dad Jason has been the biggest influence on me. He has instilled in me a good work ethic, loyalty and reliability which are three key values I believe make me a valued member of our team.

You have spent all your career at one of Australia's iconic golf clubs. What makes Kingston Heath such a unique course and place to work? I am extremely fortunate to have been able to complete my apprenticeship and continue to work at Kingston Heath. It is a great layout and has some great par 3s and very quirky short par 4s. It's not an overly long course but the bunkering is some of the best you'll see. The team at Kingston Heath have really supported me throughout my career and I feel so lucky to have found a great work environment at my first club.

What is your current role and what comprises a typical work day? I am competent in doing all tasks from course set up, cutting and spraying greens, fairways and roughs, raking bunkers, laying turf, renovations and minor construction works, tree work and lots more. We have quite a large crew which provides a lot of variety, but a general day will start with course set up, grooming or changing holes and greens cut or rolled. Fairways

are cut twice a week in the growing season, greenside bunkers raked twice a week and fairway bunkers raked once. Tree work is one of my favourite jobs and doing course set up really makes me crave playing golf.

What do you enjoy most about your role and the sports turf management industry as a whole? I love being outside every day, especially when the weather is nice. I really enjoy the physicality and challenge of the job and being able to look back at the task you have just completed and feel super satisfied. Whether it's the bunkers fluffing up just perfectly, cutting some bullets on the greens or a hard day's work on the chainsaw and chipper, that's what I love!

What has been the biggest thing you have learned about the industry during your apprenticeship and time as a qualified sports turf manager? Probably just the different grass types and characteristics, soil profiles, drainage and irrigation. There is so much to learn and it's definitely not just 'grass' on a dirt patch.

Discuss a project that you have been involved with at your club that you have enjoyed being a part of. At Kingston Heath we have couchgrass bunker edges to the greens. However, over the last two years during our collar replacement program we have been removing the couch edge and blocking in A1 bentgrass. I enjoy turfing collars and I have been involved in a lot of the bunker edge replacement works. I enjoy the challenge of the task; it's not difficult but it's very meticulous and I find I have the patience to get good results.



Kennedy ran the bunker crew at the recent ISPS Handa Australian Open which Kingston Heath co-hosted



Kennedy's attention to detail and her golfing knowledge make her a major asset for the Kingston Heath crew

Kingston Heath has just co-hosted the ISPS Handa Australian Open this year – what was that like? We began preparations for the Open back in 2019 as we were supposed to have the event in 2020. However, due to COVID it was cancelled and three years on we co-hosted with Victoria Golf Club. The build-up wasn't that of a usual tournament with only minor infrastructure going in which meant there wasn't too much disruption to the surfaces.

Preparation over the winter consisted of a lot of bunker renovations and weed control in all short cut surfaces, roughs and bunkers, lifting of tea tree and removal of some dangerous trees. The two months before were more intense, getting tournament ready when the weather allowed – we had our wettest October on record – and then dialling in the course with increased cutting and applications. During the tournament I headed up the bunker team and made sure there wasn't a grain of

sand out of place! I really enjoyed stepping up and showing my capabilities leading a team.

What has been the highlight of your career to date and why? A basic highlight was just completing my Certificate III – it's what I started out wanting to achieve the most. But the biggest highlight would have to be working the Presidents Cup at Royal Melbourne in 2019. It was an awesome experience spending two weeks with 90-odd staff/volunteers preparing a golf course for the top players in the world. It was just so surreal, it felt like a dream.

Cricket has become a passion for you in recent times, and not just in a playing sense. Being raised at a cricket club in the Yarra Valley I wasn't foreign to the game, however, I thought I had to be Australian Women's squad worthy to be capable of playing. After being dragged to Bentleigh

Cricket Club during the 2019 season and seeing that the standard wasn't quite that of the Australian team, I immediately decided to give it a go. I played the following game and went out for a duck, but I was hooked. I persevered and now absolutely love the game.

I will often head down to the ground on a Sunday if we are playing at home to help prepare the wicket by removing the covers then rolling and painting the lines ready for play. I definitely enjoy preparing a surface to play on and I could definitely see myself getting more involved in wicket preparation.

You were recently selected for the Blundstone Arena WBBL work placement as part of the ASTMA's Women in Turf Strategy. What was that like? The opportunity to go to Hobart and take part in the work experience initiative was a dream come true. I felt so fortunate to be selected and the week working alongside the team at Blundstone Arena was amazing. Curator Marcus Pamplin and assistant Sammy Butler were extremely welcoming and more than happy to allow myself and Tahlia (Bruce) to have a go at just about everything, whether that was cutting the outfield and the wicket table, rolling the pitch before play, painting the lines and, of course, helping with the covers. We also spent time preparing new wickets in the practice nets which meant more cutting and rolling.

We also learnt that your work never stops as a curator. Sitting at our accommodation on Saturday evening ready to go to bed, it started to rain and as soon as it did the phone started ringing. We quickly got to the ground to help put on the large cover to protect the wicket table from getting saturated ahead of the 10am game the next day. A highlight of the week was meeting Hobart Hurricanes captain Elyse Villani and doing the bat flip for the first game – the first toss she had won all season too!

The main thing I took from the experience is the time that goes into getting a pitch game ready and the amount of moisture required in wicket maintenance. I believe there is a stigma that a turf wicket needs to be bone dry and hard. But it's most definitely not the case and moisture retention within the wicket is extremely important.

What are your future plans and goals in the industry? In the near future I'd like to do my Diploma in Sports Turf Management. I'd like to find the opportunity to show some leadership and take on some extra responsibilities. I wouldn't rule out venturing into some stadium work at some stage as well. If the opportunity arises and the timing suited, I'd like to do



Through the Blundstone Arena WBBL work placement, Kennedy was involved in various aspects of wicket preparation and got to work alongside assistant curator Sammy Butler (right)

some travelling within the industry. My end goal is to semi-retire in the country and run a small golf course, but for the meantime I will continue to enjoy my time at Kingston Heath.

What do you think of the ASTMA's Women in Turf Strategy? I absolutely love it! I'm very much for women empowering women and it's great to know that the ASTMA recognises the value of women in the industry. Through just a couple initiatives I have already gained so much knowledge and experience. It's a great way for us to create building blocks to grow our presence in the industry.

Do you network with other women in the turf industry? I really hope the Women in Turf Strategy gives us an opportunity to build a good networking base. Already it has connected me with so many women that I wouldn't have met otherwise. Through the strategy's mentoring program I have been paired up with Denise Hill-Symonds (The Dunes) and we have met a couple of times.



Kennedy was part of the Blundstone Arena WBBL work placement organised through the ASTMA's Women in Turf Strategy and Cricket Tasmania

During those meetings we have discussed all things from my future to her lengthy, diverse career and ways of building and growing the influence of women in the turf industry.

I will always catch up with Gerri O'Callaghan (superintendent, Sandringham Golf Links) when we are in the same place at the same time (generally for Pennant or a golf tournament) and course discussions are always on the cards. I have also remained in contact with Tahlia and Sammy from the Blundstone Arena placement. Also during the recent Australian Open, as there were a number of interstate volunteers, Gerri organised a dinner with 10 women in turf meeting up which was fantastic.

What would be your advice for other females considering a career in sports turf management or just starting out? If you're thinking about it, give it a go. There is absolutely no harm in testing the waters. Flexibility can be achieved as well with plenty of casual or part-time positions possible. You may think it's something you can't do, but you will never be left to do something you're incapable of doing by yourself. The sunrises are worth it too! 🌅

WBBL EXPERIENCE ON THE RIGHT WICKET

The second of the ASTMA's Women in Turf Strategy work placement programs was successfully held at Blundstone Arena in Hobart in early November, with Tahlia Bruce (Golf Central, Brisbane) and Kim Kennedy (Kingston Heath GC, Melbourne) spending a week at the venue as it hosted five WBBL matches across five days.

Working under head curator Marcus Pamplin and assistant curator Sammy Butler, the duo were involved in all aspects of wicket and outfield preparation. Given that Blundstone Arena was down two crew members at the time, Bruce and Kennedy were literally thrown in the deep end but more than held their own as the venue successfully hosted the hub games which featured Hobart Hurricanes, Brisbane Heat, Melbourne Renegades and Sydney Thunder.

"It was a once-in-a-lifetime experience," says Bruce, who served her apprenticeship at Wynnum Golf Club in Brisbane. "I would love to have that sort of experience again and would definitely go back down there. It was just so different to what I do every day. It was good to learn how another aspect of greenkeeping works and the practices and techniques they use which differs from golf."

"I really enjoy the game of cricket and played it as a kid, so it was great to be involved and giving it a go from a turf management perspective. I'd never experienced that side of the industry before and it was one of the reasons why I applied."

"We started with rolling and some outfield cutting and then moved onto wicket



Tahlia Bruce (above left) and Kim Kennedy (above right) spent a week at Hobart's Blundstone Arena in early November when the venue hosted five WBBL matches across five days

preparations. They got us to start cutting in some new wickets in the practice nets as well. So we got to experience all parts of preparing wickets and the outfield – from starting a new wicket, looking after an old one to preparing one that had been used and everything in between. During one of the evening games it rained so we were out there pulling covers on and off as well.

"Sammy and Marcus were fantastic to work with and welcomed us in and made us a part of the team from day one. They are very experienced in what they do and were really keen to share their knowledge. They were really great teachers and explained to us how things worked and why they did certain things. They had it in their head how they



wanted things to go and they were great at expressing that to us and how to achieve it."

One of the memorable moments for both Bruce and Kennedy was being involved with the bat flips prior to the start of two matches. In the first game between the Hurricanes and the Renegades, which also doubled as a WBBL Pride Game, Kennedy got to perform the bat flip, while Bruce had the honours ahead of the Hurricanes v Heat clash.

"That was a big highlight," says Bruce. "I'm a huge Brisbane Heat fan – I wear my Heat hat to work every day – so to be involved in the bat flip was pretty special. What made it even better was that Brisbane won the game with Laura Harris smashing 68 off 29 balls which was amazing to watch."



Fuel use is the primary source of carbon emissions from the sports turf industry with mowing accounting for a significant part of the maintenance cost at some facilities

Improving turf's carbon footprint

As ATM expert columnist John Neylan writes, the turf industry must act to quantify its carbon footprint and start making some definite commitments to reducing it.

Over the past few months, the discussions around climate change and reducing the level of greenhouse gasses (GHG), closure of coal-fired power stations, the move to renewable energy sources, rising ocean levels and more intensive storm events has reached a crescendo.

The recent United Nations climate summit (COP27) in Egypt provided a focus on what the climate is doing and the commitments that countries are making to reduce emissions to mitigate the damage. There is certainly an element of urgency. The documentation is written by diplomats and a bit of a hard read, however, the summary provided by the Climate Council does provide some clarity around Australia's situation and its future obligations.

The CSIRO's 2022 State of the Climate (SOC) Report has also been recently released and the trends previously reported continue. Given the floods along the eastern seaboard

and high rainfall events over the past 24 months, there are still concerning issues around increased warming, the decline in rainfall in the southwest of Australia, the decrease in stream flow and rising sea levels.

While we hear about these bigger picture issues, they almost seem too large to place in the context of the turf industry. My general thoughts are that the responsibilities for taking action have already started at the Federal and State levels where legislation will force change throughout society. This may or may not be good for the turf industry.

I suspect that the larger horticultural and agriculture industries will be well supported with research and guidance, however, the turf industry may be left to fend for itself. In the Golf Course 2030 Australia report, which I examined in the last edition, it was noted that the golf industry acknowledges the need to transition to cleaner forms of energy. Unfortunately, while there is a desire there is no plan.

ITRC PAPERS AND CLIMATE CHANGE

While many industries wish to become carbon neutral or at the very least reduce their carbon footprint, the question is whether the turf industry can be carbon neutral. At the time of the COP27 and SOC reports, research papers from the International Turfgrass Society's research conference (ITRC) held in Copenhagen in June were published.

There are several papers that are tackling the issue of climate change and the carbon footprint of turf which resonates strongly with the Golf Course 2030 Australia document released in June by Golf Australia. It reinforces that, as an industry, turf will need to look more broadly at what it is doing and how it can improve among the broad objectives of reducing carbon and increasing the use of renewables.

The ITRC papers provided a broad viewpoint with Fitzpatrick et. al. (2020) taking

a somewhat jaundiced view of the golf course industry and its environmental, social and economic impact. It is a review paper that highlights all of the prejudices that golf courses have had to endure in my near 40 years in the turf industry. That is, requires large areas of land and consumes large volumes of water and energy, fertiliser and pesticides. The point being made by the authors is that golf must explore means of minimising inputs, minimising waste and optimising solar energy and to shift from efficiency to sufficiency.

Aamlid (2022) highlights the perennial problem that the turf sector faces in that it does not produce food for humans or feed for livestock. However, turf does have a role to play within the United Nations Sustainable Development Goals (SDGs) as outlined in its Agenda 2030 (United Nations, 2015).

Among the SDGs strongly related to the turfgrass sector are SDG 3 (good health and well-being), SDG 6 (clean water and sanitation), SDG 11 (sustainable cities and communities), SDG 12 (responsible consumption and production), SDG 13 (climate action), SDG 14 (life below water) and SDG 15 (life on land).

The turf sector in Australia is already contributing to these SDG's through:

- Providing sporting surfaces to encourage good health and well-being;
- Providing green space within urban environments;
- Using recycled water for irrigation (utilises a resource while removing the dissolved constituents);
- Wetlands on golf courses provide an excellent means of cleaning polluted waters;
- Establishing aquifer recharge areas to clean polluted stormwater from the urban environment;
- Turf areas provide buffers against temperature extremes in the urban context;
- Turf maintenance is already focused on minimal inputs as this often produces the best playing surfaces;



Converting from cool-season to warm-season grasses can reduce water and electricity usage as well as lessen the need for insect and weed control inputs

- Golf courses are excellent areas of biodiversity and create wildlife corridors in urban environments. As a side note, at the 1997 turfgrass conference, the vice president of the Australian Conservation Foundation condemned golf courses because of their perceived impact on the environment. On the plus side, however, the author acknowledged the importance of the wildlife corridors provided by Melbourne's Sandbelt courses.

Bekken and Soldat (2022) noted that carbon sequestration in golf course soils has received some attention, but energy use and GHG emissions from golf course turfgrass maintenance are poorly quantified. In their studies they divided the energy use and GHG emissions that result from golf course maintenance operations into three areas:

- Onsite emissions – mainly onsite fuel use;
- Offsite emissions – mainly offsite electricity generation; and
- Supply chain (upstream) emissions – mainly from the production and transport of goods and materials (e.g. machines, fertilisers and pesticides).

Their modelling and conclusions from the studies were that:

- Mean energy use was 34, 10 and 56 per cent for onsite emissions, off-site emissions and supply chain emissions respectively.
- Mean emissions (CO₂e) were 37, 24 and 43 per cent for onsite emissions, off-site emissions and supply chain emissions respectively, with fuel and electricity use accounting for 63 per cent of all GHG emissions.

The authors concluded that electrifying golf course maintenance equipment and sourcing electricity generated from renewable sources are likely to be the most effective ways for golf course turfgrass maintenance emissions to be reduced.

TAKE HOME MESSAGE: As an industry, the turf sector and the major sporting bodies that use these facilities, have been very poor in supporting research in this area. A proactive approach must be taken so that we understand how we are doing as an industry and where it can improve.

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Golf courses have treescapes that create areas of carbon storage, biodiversity and important remnant vegetation

GOVERNMENT POLICIES

The decisions that the turf industry will be forced to make will be driven by government policies and legislation. The Australian Government has passed the Climate Change Bill 2022 which legislates the nation's commitment to reduce GHG emissions by 43 per cent below 2005 levels by 2030 and net zero by 2050. The government states that this Bill confirms the commitment to ambitious but realistic targets supported by Australia's states and territories, business, industry, unions, environmental and community groups. This also means the turf industry.

Most states have policies regarding the reduction of carbon emissions and move to renewable energy sources. Local Government (LGA) is also picking up the mantle with 114 LGAs as of 2021 committing to ambitious carbon, net zero and renewable energy commitments (Source: 100percentrenewables.com.au). It has been noticeable that some LGA's are already looking at their sports field maintenance as part of this commitment to meet these targets.

So, what can the turf industry take from this? It is not a matter of if but when the turf industry will have to make definite commitments to demonstrate how it will improve its carbon footprint. Based on what is happening in Europe, the turf industry will need to comply with federal, state and local government requirements.

TAKE HOME MESSAGE: Reducing GHGs and reducing its carbon footprint is going to be forced on the turf industry and now is the time to be proactive and be a leader.

CARBON NEUTRAL IN TURF MAINTENANCE

The benefits of turf in Australia have been well documented, with turf playing a significant role in enhancing the quality of both the built and natural environment. The benefits that turf provides can be grouped into three categories:

- Functional – these are mainly environmental benefits such as erosion control, flood control, carbon sequestration and fire prevention;

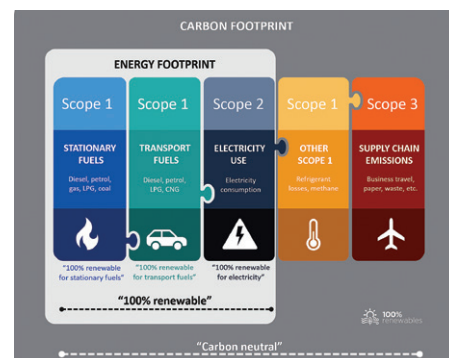


Figure 1. Carbon footprint and achieving carbon neutral. Source: 100percentrenewables.com.au

- Recreational – these include physical health, leisure and sporting benefits; and
- Aesthetic benefits – these include social well-being and improved quality of life.

From a narrow perspective, the current interest is on how much carbon can be adsorbed by the turf (carbon sequestration) to off-set the emissions to maintain the turf.

In a recent project undertaken by SPORTENG, sports fields were evaluated for the carbon outputs versus carbon sequestration and identifying where improvements could be made. The process can be quite complex as all of the inputs may not be clearly identifiable or are poorly recorded. The 100% renewables website (100percentrenewables.com.au) provides excellent information on the inputs to the carbon footprint and what has to be considered to be carbon neutral (see Figure 1 above). While Figure 1 is not turf specific, it does highlight the key areas. The one area that is often neglected is the supply chain emissions such as fertiliser and pesticide production and transport.

Studies by Koehler et al. (1982) shows that turfgrass areas have the potential to sequester more carbon than they can emit. However, after a certain amount of time turfgrass becomes a net source of GHGs when the soil reaches its carbon storage capacity. The length of time depends on many factors such as soil type, climate and maintenance practices. Research shows that to assess the carbon inputs on any field of play or golf course, major consideration must be given to:

- The direct energy use, such as the fuel to operate mowers and other equipment and electricity to power irrigation systems; and
- Other inputs such as fertilisers, pesticides and topdressing sand.

TAKE HOME MESSAGE: As an industry we have been talking about climate change and its carbon footprint for over 20 years but done little to quantify it. The turf industry needs to act now so that it can identify the size of the problem and determine what the economic cost to enact change will be.

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PHOTO: NEARMAP

Poor distribution uniformity can lead to extended irrigation run times and therefore increased use of electricity

CARBON ASSESSMENT OF TURF SURFACES

With 114 LGA's having a climate change policy with an emphasis on reducing the carbon footprint and move to renewables, there is a gradual push towards understanding the carbon footprint of sports turf areas. The general focus is to enhance the environmental health by reducing the carbon footprint without diminishing the existing lifestyle. This is a big order – it is like having your cake and eating it. LGA's are broadly aiming to achieve their carbon reduction strategy through implementing a two-fold approach to climate change – reducing carbon emissions and addressing the climate risks.

SPORTENG has undertaken such studies and the following is an amalgamation of the key findings. The purpose of these studies was to estimate and analyse the carbon generated in the maintenance of natural turf sports fields. On face value it seems to be a relatively straightforward exercise. However, the devil is always in the detail. The challenge is being able to collect all of the necessary data on fertiliser use, equipment type, hours of use, fuel consumption, electricity consumption and irrigation scheduling to name but a few.

The project involved several specific aspects, where good data was readily available, to determine both carbon production and carbon sequestration as follows:

- Reviewing all inputs including fuel, electricity, water, pesticides, fertiliser, renovations, wetting agents etc.
- Site assessment including soil sampling, turf assessment and irrigation system function.
- Analysis of soil and turf samples to provide a baseline for carbon sequestration.

- Liaison with maintenance equipment manufacturers and irrigation experts.

It is noted that there is imbedded carbon in the manufacture of equipment, fertilisers and pesticides and was too complicated to include in the carbon calculations for these studies. The general key findings are detailed below.

FERTILISER

The carbon footprint of different fertiliser products in different regions of the world has been determined by Kool et al. (2012). The study was conducted from a lifecycle perspective. Based on previous studies of turf management, it is seen that nitrogen (N), phosphorus (P) and potassium (K) are the major contributors of carbon emissions.

In the SPORTENG studies the fertiliser applications were very light at 80-120kg N/ha/yr, 50-72kg P/ha/yr and 50-72kg K/ha/yr. The contribution to the total emissions was relatively small at 2 per cent. Rossi et al. (2008) in their study determined that fertiliser contributed 13-20 per cent of the total emissions and reflects the more complex golf course environment. Bekken and Soldat (2021) calculated that the fertiliser contributed about 9 per cent to total emissions for golf courses.

Looking more broadly at fertiliser, it falls within 'Scope 3/supply change emissions' as mentioned earlier and shown in Figure 1. Much of the fertiliser used in Australia on turf is manufactured overseas. For example, urea is manufactured synthetically by reacting natural gas, atmospheric nitrogen and water together at high temperature and pressure to produce ammonia and carbon dioxide. These gases are then reacted at high temperature and pressure to produce molten (liquid) urea. This is cooled and manufactured into granules or prills.

Incitec-Pivot manufactures granular urea in Brisbane, the only plant of its type in Australia. The nation is not self-sufficient in urea and a considerable quantity is imported to supplement local production. Just this one component of fertilisers is energy intensive and then if transport costs are added in, emissions are substantial. In a study by Menegat et al. (2022) it was determined that the synthetic N fertiliser supply chain was responsible for estimated emissions representing 10.6 per cent of agricultural emissions and 2.1 per cent of global GHG emissions.

MOWING

Data on carbon emissions from diesel usage, relating to mowing operations, were estimated using fuel consumption and hours of operation gathered from the data provided by the maintenance teams. A thorough inventory of all machinery used, its material composition, annual use, life-time etc. was not possible due to the lack of site-specific information. An estimate was made using the data provided by assuming that energy use and GHG emissions from manufacturing, maintenance and repair of machinery comprised 17 per cent of the total energy use and GHG emissions from all turf operations performed. In this study mowing contributed 92 per cent of the total emissions.

Other studies have concentrated on fuel use where it is calculated that this contributes about 41 per cent (Bekken and Soldat, 2021) to 72 per cent (Rossi et al.) of total emissions for golf course maintenance. As has already been mentioned, Bekken and Soldat (2021) concluded that electrifying golf course maintenance equipment is likely to be the most effective way for golf course turfgrass maintenance emissions to be reduced.

ELECTRICITY

The calculation for electricity was based around the requirements for operating the irrigation pumps. Assuming that the pump was operating at 600kPa, the electricity consumption for irrigation was estimated to be 0.78 kWhm⁻³. A factor of 1.13 was used for converting electricity into primary energy, considering a transformation efficiency of 50 per cent and distribution losses in the grid (ESC, 2020). In these studies, electricity contributed 6 per cent to total emissions. In the study by Bekken and Soldat (2021) they determined that 35 per cent of emissions on golf courses was contributed through electricity use. In reading the literature, studies from several golf courses tended to amalgamate the fuel and electricity into a total energy use.

SOIL CARBON SEQUESTRATION

Golf courses, sports fields and lawns sequester carbon through the turf-soil system, but they also emit GHGs through their maintenance.

This balance between emissions and sequestration determines the carbon balance of the maintenance operations. In our studies core samples were taken and analysed for soil organic carbon (SOC) as a means of finding whether there was some balance with the carbon emissions.

Carbon sequestration is greatest in relatively young turf areas. However, longer term studies indicate that about 30 years after turfgrass establishment the soil organic content concentrations in golf course soils slow and after about 90 years sequestration rates are near zero (Bandaranayake et al., 2003; Qian & Follet, 2002; Selhorst & Lal, 2011). In our studies the turf areas ranged in age from 10-25 years and the SOC was calculated as follows:

- $SOC (t/ha) = Carbon (\%) \times \text{soil bulk density} \times \text{depth of sample};$
 - Carbon sequestration (SC , kgC) by the whole turf is the sum of the SOC in soils (C_{soil} , kgC) and carbon stock in turfgrass vegetation (C_{turf} , kgC). $SC = S_{soil} + S_{turf}$
- Braun and Bremer (2019) state that the range for carbon sequestration is quite broad and is dependent on the location, turfgrass type and the intensity of maintenance. In regions with extended growth periods (i.e. the turf doesn't become dormant) and/or a high level of inputs (water and fertiliser), the level of carbon sequestration is greatest. The



Upgrading from petrol/diesel to electric mowers can eliminate the emissions from mowing through fuel usage

literature provides a range of 0.18-2.80 tonnes/ha/year (a mean of 0.9 tonnes/ha/year) for turf systems. In our sports field studies, carbon sequestration was within the moderate range at 0.6-0.8 tonnes/ha/yr.

The total carbon budget (T_c) of the turf was calculated and is the carbon emission from turf maintenance and carbon sequestration, given by $T_c = S_c - M_c \times Y$ where S_c = carbon sequestration, M_c = carbon emissions and Y is the years since the establishment of the turf. When the value of T_c is positive, the whole

turf remains a carbon sink; if negative, the turf serves as a carbon source. In our studies the Net Carbon Budget (T_c) for all sports fields were determined to be a carbon source. It is likely that very few sports turf facilities will be a net carbon sink. The exception may be golf courses where there can be a large proportion of non-turf vegetation cover. Livesley et.al. (2016) determined that tree canopy areas contribute the most soil C to urban soils on a per-unit-area basis because of their greater soil C density (0-0.3m depth).

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OTHER FACTORS

Undertaking a carbon audit in a sports turf situation is not a simple matter of adding up the outputs and subtracting the carbon storage. In our studies there were several other factors contributing to the equation and potentially adding to the imbalance, including:

- Poor irrigation distribution uniformity – to irrigate any area to prevent plant stress requires extended run times and therefore increased use of electricity.
- Turfgrass selection – some fields consisted of cool-season grasses and required more irrigation and therefore greater use of electricity. Others had a poor couch variety which required greater post-winter repair.
- Profiles with poorly drained, fine textured soils have a greater propensity for turf damage in wet weather which requires the need for greater repair.
- Factoring in other inputs such as pesticide and herbicide applications.
- Topdressing sand and renovations.

In reducing the carbon inputs for the sports fields in these studies, the following were the key considerations:

- Reduce fuel use/mowing requirements;
- Minimise water use through best management practices and turf selection;
- Improve water use efficiency through an irrigation system upgrade;
- Choosing appropriate turfgrass species;
- Minimise pesticide use;
- Reduce 'product miles' and purchasing local wherever possible;

Fuel use is the primary source of carbon emissions from the sports turf industry where mowing can account for at least 60 per cent of the maintenance cost. Factors that affect fuel use include mowing frequency, machinery selection and maintenance, use of PGRs and fertiliser applications.

If machinery is getting old, chances are it is not as energy-efficient as newer technology. In some cases, newer machines can reduce ground-level emissions by 70 per cent. It is also important to keep machinery well maintained and regularly serviced. A properly sharpened and balanced mower blade will reduce mower vibration, lengthen mower life and reduce fuel consumption by as much as 22 per cent. Monitoring fuel use is an important

tool in assessing the fuel efficiency of both the machinery and management systems.

CONCLUSIONS

In these studies, there were several obvious changes that could be made to reduce emissions and the carbon footprint which are outlined in Table 1. While the intent is strong, the reality is that establishing the carbon footprint and then making meaningful changes is difficult. However, we can make a start.

Other than making a start, the greatest challenge is funding the future capital costs associated with making these changes. The turf industry needs to make a start and individual organisations will have to begin planning for the future. This will require:

- Undertaking an emissions audit;
 - Identifying where changes can be made;
 - Investing in change by allocating funds;
 - Balancing between turf playability, safety and social value and reducing emissions.
- There needs to be a value that can be allocated to the value of 'amenity'.

Editor's Note: For a full list of references, contact the editor, brett@astma.com.au.

TABLE 1: RECOMMENDATIONS FOR ACTIONS TO MINIMISE CARBON FOOTPRINT

SOURCE	RECOMMENDATION	BENEFITS	CHALLENGES
Change grass type	Convert from cool-season to warm-season grasses	Reduced water and electricity usage by 30-50% Fewer inputs for insect and weed control	Changes surface for soccer Carbon input for conversion
Upgrade irrigation	Undertake irrigation audit and potential upgrade to system	Reduced water and electricity usage by 30-50%	Carbon input for upgrade
Reduced mowing	Use PGRs to reduce turf growth	Reduced mowing frequency of about 40-60%	Carbon input for applying PGR Balanced against surface requirements for cricket
Fertiliser management	Review current fertiliser programs in relation to soil types, growth patterns and hours of use Review source of fertilisers (e.g. locally vs overseas) Develop site-specific fertiliser programs	Reduced mowing/fuel use Reduced 'product miles'	Potentially an increased cost/unit fertiliser
Upgrade to electric mowers	Upgrading from diesel/petrol to electric mowers can eliminate emissions from mowing through fuel usage	Reduce the emissions to zero if the electricity producer is carbon neutral	Technology may not be available Potential increase in the cost of investment in electric mowers Establishing renewable power
Improved data collection and monitoring	Accurate data collection on electricity, fuel consumption and fertiliser useful for data analysis	Easy access to data whenever required Improved time management	Time required to log in the data after every maintenance operation



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PHOTO: DEAN HARDMAN

The power of water

Columnist Peter McMaugh AM looks at the role of water in the debate around climate change and reflects on some of the papers presented at the 14th International Turfgrass Research Conference in Copenhagen.

When you think of the great natural wonders of the world, you count among them the Grand Canyon carved through numerous layers of rock over millions of years by water. When you think of the immense damage that can be caused by tsunamis after earthquakes, you realise the immense power that water can unleash in mountainous waves. When you see the damage that the floods over the last two years in Queensland and NSW did to the turf industry alone, you realise how disastrous the bad planning and bad management of water can be.

'Disaster' is a word that lately has become one of the most frequently used words we hear. Indeed it is almost getting to the nauseating stage. Can't we find another one? How do you describe an event like the recent floods in Pakistan where over 35 per cent of the whole country was submerged? Is that a 'disaster' or a 'catastrophe'? Yes, we are doing it tough, but a lot of people are doing it far tougher. It is probably a bigger disaster for a Pakistani family to lose their cardboard shack than it is for an Australian family to lose its house.

The chorus of voices chanting that this is all about climate change gets even louder, but what exactly do we mean by climate change? Our climate is made up of many parts. There are the gasses in the air; there is the moisture in the air; there is the dust and other particles in the air; there is the water in our ponds, streams and oceans and in the air. There is the earth beneath our feet with its teeming populations of exotic bugs (our microbiome); there are the trees and grasses that make use of all the former and in doing so keep them in a state of flux. There are all the different wave lengths of energy on both sides of our visual acuity at play. This is the power source that drives the climate cycles.

What do we know and what can we measure as parts of this great complex? How many of the measurements we take can we feed into systems of developing knowledge to stop us on our path to destruction of the planet?

We have a few certainties. We know that the planet's atmosphere and soil and oceans have warmed by 1.1°C (2021) and 1.09°C (2022) since the Industrial Revolution. On the big scale of data gathering this is a mere blip on the horizon. We have data from many

millennia ago that says that the earth had much higher levels of CO₂ than we do now.

To put all the attention about these bits and pieces into perspective, water needs to come into the spotlight in a big way. We know that the Pacific Ocean holds by far the biggest share of water in the world. We have seen its temperature rise by 1.1°C in the last 100-plus years. Its pH has also changed, becoming slowly more acidic. But more important overall is the pattern of how and where these changes take place.

It is only in the last 20-30 years that we have seen the discussions about El Niño and La Niña with which we are familiar, but there is a lot more going on. We hear much more about the Indian Ocean Dipole, the Eastern Australian Dipole and, much more recently, the Southern Oscillation Index.

These all rely on the development of temperature gradients in the waters off the west coasts of both North and South America, the mid-tropical Pacific as well as in the Coral Sea and the Indian Ocean.

These temperatures are in turn controlled by the amount of energy from the sun that gets through the earth's atmosphere onto the ocean. The big player here is cloud cover, or to

Opposite: What we are seeing now in Australia is not fundamental shifts in the patterns of the weather's behaviour over the centuries, but rather the intensity of expression of events within those patterns. Pictured is Indooroopilly GC inundated earlier in 2022 by the Brisbane River after huge rainfall totals

put it simply, shade. Clouds provide the earth with shade umbrellas.

As the ocean temperatures rise there is an increase in the evaporation rate and the volume of water into the atmosphere. The major result of this is more clouds because clouds are primarily just water in another state. What goes up must come down and if more water is going up, then more water must come down and at a greater rate.

What we are seeing now in Australia is not fundamental shifts in the patterns of the weather's behaviour over the centuries, but rather the intensity of expression of events within those patterns. This simple behaviour applies to any of the weather systems wherever in the world. In the USA there is great anxiety about the increasing intensity of hurricanes (cyclones) and tornadoes, but they are simply following the patterns of higher energy inputs into ocean temperatures.

These events are getting more violent because there is more energy at play. If you really think hard about it, the Grand Canyon didn't occur because some gentle stream



PHOTO: STOCK.ADOBE.COM/LAWYAI

As ocean temperatures rise there is an increase in evaporation rate and volume of water in the atmosphere. What goes up must come down and if more water is going up then more must come down and at a greater rate

spent eons of time gently eroding the land's rocks and sediments. No, it took the violence of the high energy stored in huge masses of water to do that tunnelling.

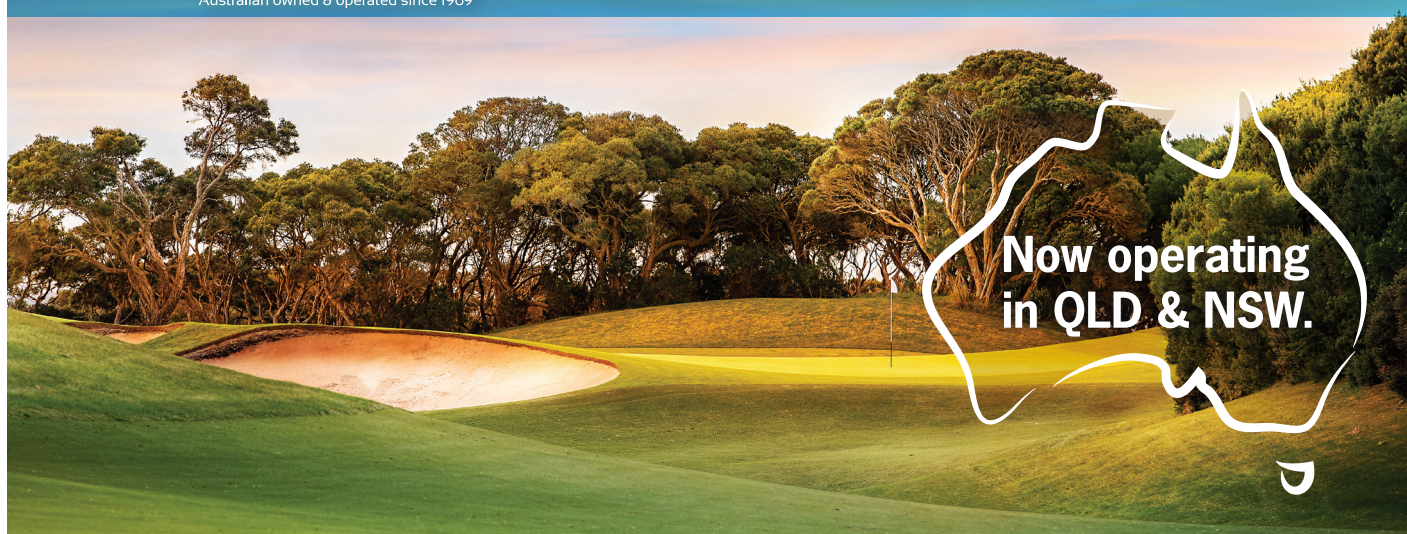
Climate change is nothing new. It has been part of how the world has been shaped over millennia. What has changed now? It is not so much the overall pattern of climate that has

changed, but the rate at which it is occurring. This big kick came from the accelerator of the Industrial Revolution. The primary driving force for that was the increased input of energy from ancient stored sources – coal. And what was the driving force behind that – greed and need.

If you take just a cursory look at the patterns of the historic developments of



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We are slowly starting to realise that our future relies on capturing and using energy either directly and primarily by solar technology or indirectly by the sun powered winds. Solar panels are installed here on the clubhouse at The Cut, WA (left) and the Royal Melbourne Golf Club maintenance facility (right)



PHOTOS: NEARMAP

the changes in energy use over the known history of 'civilisation' (and that is almost the greatest misuse of language possible), we see the gradual changes of the way energy was harnessed to produce food and wealth for every part of the world. But what didn't happen was that this occurred uniformly in every continent and every climate.

The big changes come in pockets or parcels and often these were segregated from one another by geography and climate or, perhaps more accurately, water. Those who managed to 'tame' the seas were those who were able to impose their greed on those that couldn't or didn't.

Times and technology change, and there have been historical long-term changes in climate patterns. Some of these have come from extreme events such as huge volcanic

eruptions. Some have come from meteor strikes but it is the overall patterns of changes in water distribution which has seen the fall of most of the ancient civilisations, many of whose reigns and ruins we are still discovering.

This pattern of water being the reason for both the rise and fall of civilisations is one that we are not hearing or seeing as a world population. The Sahara Desert was once a verdant world. Climate change changed it too. Climate shift or climate change is nothing new.

The rainfall patterns in Australia today are quite different from what I was presented with in my university learning. You are not going to stop nature's forces from responding to the natural inputs of energy into the climate system. But you can change the way that energy input is managed and you can make a change to how quickly those energy inputs

happen. How you can change the systems of management and water management is a very big key to the way our future can go.

The water resources of the world are vast. But of all that water only a very small percentage is potable and useful to man. It has been said that water will be the next resource over which wars will be waged. And this has been repeated many times.

Water is our most precious resource only when it is supplied as clean, uncontaminated and easily available to everyone. It is very clear that this is not the case for the world's populations. The more 'developed' the world has become the more polluted the water supplies have also become.

It is not only by being clever monkeys that we have raised standards of living to a level that even 200 years ago would have seemed impossible to the average man. If you look at just one energy stream – light – you can see how quickly technology has changed from candles to pressure lanterns, to light bulbs and fluoro tubes, LEDs and now solar panels. The only problem is that these improvements don't happen in all places and evenly among all people. This is the same with water.

We have used conventional wisdoms to build dams to provide water for settlement and food production very successfully, but at what cost to the environment. The biggest problem that western civilisation in general has is the mentality of once only use. Our throwaway society is based on the false premise that we will never run out of resources. In one way that is true in that at the top of the energy chain is the sun and we get far more energy thrown at us than we can capture or use.

We are slowly, but ever so slowly, starting to realise that our future relies on capturing and using this energy either directly and primarily by solar technology or indirectly by the sun powered winds. We still have to get much cleverer in the ways we plan and do this.

In this lies the key to changing the way we use water. It is the key to changing the mindset of the throwaway society. Water resources have to be mined many times over to make it clean and readily available everywhere. This is a challenge that we have to face and come up with new solutions. Reverse osmosis is often touted as the be-all and end-all solution to this problem, but it is very energy demanding and in the high end of costs.

There are ways that it can be improved, but there are also new technologies that do what it does much more efficiently and much more cheaply. There are also agronomic ways of changing the climate patterns of countries to produce more rain and one of the biggest



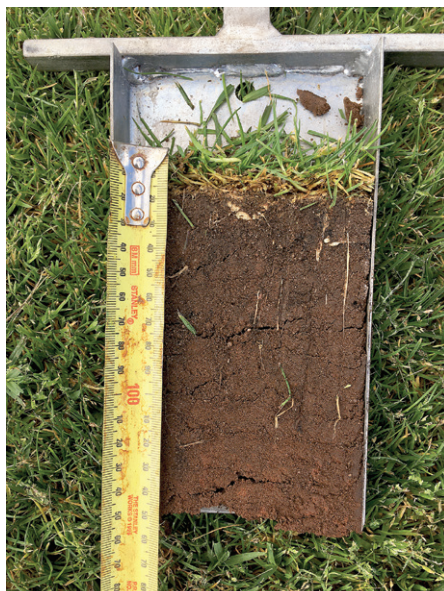
Australia is the world's driest continent and receives alternating cycles of excess water or drought

of these is to plant more trees. But not just any old planting – the strategic selection of species and densities have to be highly considered and directed.

You can't have golf clubs without water and as a competitor for water for food and sanitation, golf clubs are being seen by many to be a luxury we can't afford. If you extrapolate that to any turf grass then you will have a very big social problem indeed. The general mental health of the inhabitants of cities is very closely correlated to how close to 'green zones' they live.

We are now starting to feel the noose tightening on how we access our water and how we use it and the pressure is only going to increase. This can be seen very clearly in Western Australia already, where the quantum of water for green space use is being drastically reduced. Yet, millions of litres of 'waste' water are still being pumped out to sea. Until Australia as a whole accepts a philosophy of multiple use of water and also adopts new technologies of treatment of saline water, we will be looking at a bleak long-term vista.

In this article I have tried to set a frame within which we can take a much closer peek into some of the new technologies I have touched on here. You can look forward to seeing some big surprises coming up.



Carbon sequestration through the turf-soil system is greatest in younger turf areas but reduces over time

INTERNATIONAL TURFGRASS RESEARCH CONFERENCE – COPENHAGEN 2022

The International Turfgrass Society's 14th International Turfgrass Research Conference was held in July in Copenhagen, Denmark with a theme of 'Development and Sustainability'.

One of the papers presented during the conference was on a study by Dr Michael Bekker at Wisconsin University which looked at the energy use on golf courses in terms of their lowering carbon dioxide levels from the time they are built to the time when they become mature. The results are somewhat surprising and give us good reason to re-think the way we approach golf course maintenance.

There is, as far as I can see, nowhere in the study of consideration to the energy used in building the golf course. So any new golf course is going to start in the negative until it is grassed. In most cases it will then still be in negative territory unless there have been very minimal earthworks. The moment you start to destroy onsite vegetation you stop that vegetation from sequestering carbon no matter how little it may be providing in the overall scheme of things. The more earthworks for cut to fill that you have to do on a new course the more you move into negative territory.

When you look at the energy needed to install an irrigation system and the energy involved in manufacture of that equipment and pipes, there is again a significant input on the debit side of the ledger. That won't stop with the drainage or the fertilisers used until the grassing is done and the grasses start to put a positive input on the credit side of the ledger.



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Drone technology and its application in sports turf has become hugely more sophisticated in recent years

During the grow-in period and in the first 2-3 years the grasses and tree plantings on the golf course begin to mature and while the growth of everything is at its maximum there will be a rapid surge of sequestration of carbon. This will start to slow down by about 10 years when the course will start to reach the consolidation stage. This will continue until at about 30 years, when the course is fully mature, you reach a tipping point where the maintenance and the carts on the course tip the balance into the negative once again.

What the study emphasises is that it is the larger course machinery that has not yet achieved 'EV' status which is the bugbear. It also emphasises the need for a whole of venue vision (clubhouse, pro shop and maintenance) to be based around the passive collection of energy and its storage to keep the whole venture working for a positive result.

At about 50 years the study claims that the soil will no longer sequester carbon and that by that stage the course will be stuck in the negative unless all of the maintenance is using passively stored energy. They also estimate that the life of a course is 200 years and that at 50 you still have three times as much territory to travel. I don't find the claim that for another 150 years the course will no longer make a contribution to carbon sequestration reliable.

This is an interesting study of which I have only viewed a small synopsis. It was done assuming the grasses are all cool-season and it will be interesting to see how it stands up to being picked apart by critics and projects using warm-season grasses are studied.

Some other interesting studies presented during the Copenhagen conference examined the role of drone technology in day-to-day course maintenance. The big message out of

these was that this technology had become hugely more sophisticated in the last five years and that in addition to that the prices have come down dramatically. The cameras which are an essential part of this have also become more sophisticated and the algorithms needed to convert the pixels to information has also improved dramatically.

While we have had very useful technology of this kind related to water content and dry patch monitoring now for many years, the current improvements are more related to disease and weed control. Disease control has concentrated on thermal imaging and in experiments where rhizoctonia-infected plugs were placed in the ground, the spread of the disease could be detected at four days while visible symptoms could not be seen until day 10. This was achieved by studying plant temperatures. Yes, plants too have a temperature reaction to infection.

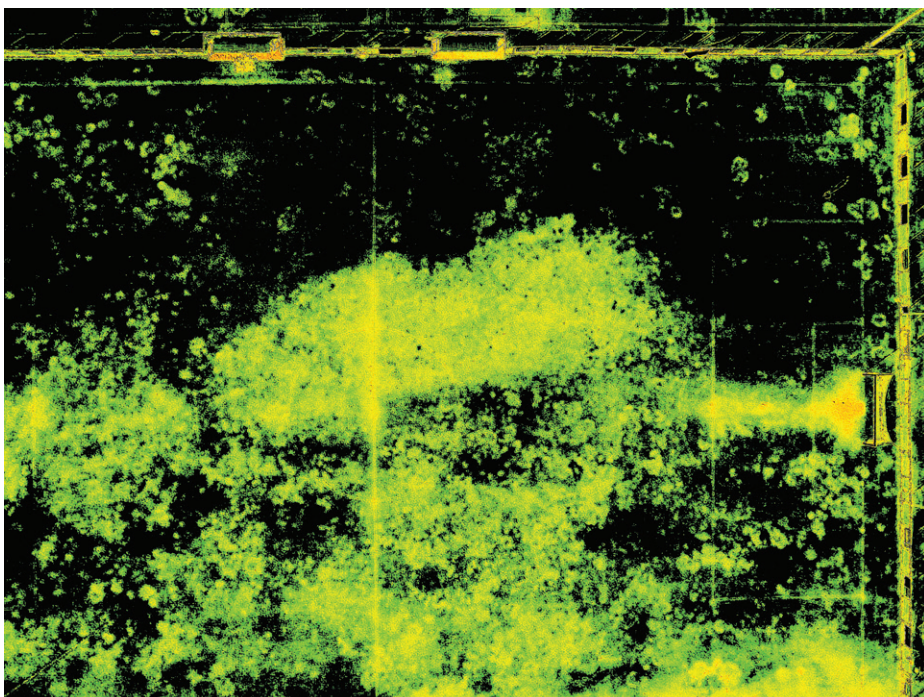
Utilising another technology – GPS coordinates – disease patches of diseases such as spring dead spot and weed patches could be precisely identified and fed into computer programmes controlling a precision sprayer which precisely and selectively sprays those spots. By using this technique the level of chemicals can be cut by 60 per cent. This alone over a few years will pay for the expensive computer-controlled spray tool which in the USA costs \$90,000 per unit.

There are also much more sophisticated methods being introduced in both soil chemistry and soil physics to analyse soil problems. The successful transfer of what have been programmes of analysis in a laboratory have now, using lasers and laser directed spectrography, made this a matter of a few hours in the field. This is the new horizon that the golf course superintendent is going to have to understand and master.

In addition to these, the increasing sophistication of monitoring biological process using PCR and other genetic analytical tools is putting things like disease diagnosis on a slide into new territory, where not only is the disease able to be tagged, but whether it is a strain with fungicide resistance can also be picked out. The cost is also moving rapidly into the 'affordable, every day repeatable' territory.

Most of these improvements are based on basic science discoveries over the past 10 years which are now beginning to yield benefits previously unseen. The golf course superintendents of tomorrow will be telling the sales person what they need and not the other way around as is all too frequent today. Hooray! 🎉

While drones have been very useful for monitoring the likes of water content and dry patch, significant improvements have been made around their use to monitor diseases (shown as the green areas in the NDVI image left) and weeds



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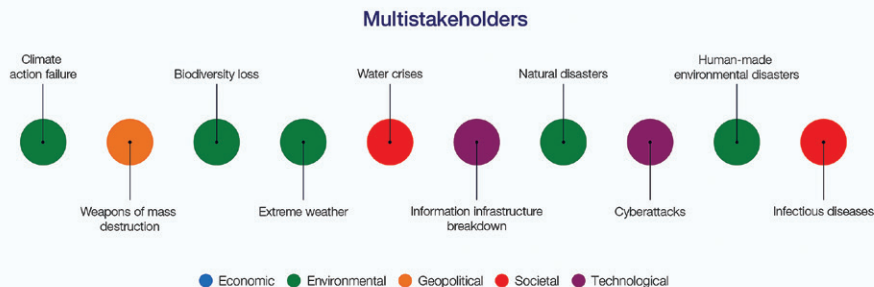


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TOP 10 RISKS OVER THE NEXT 10 YEARS

Long-Term Risk Outlook: ImpactWORLD
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Global Risks Report 2023

Be prepared

Compliance expert Terry Muir discusses disaster risk reduction and the importance of being prepared for tomorrow.

One of the highlights from the recent United Nations Climate Change Conference (COP27) in Egypt was the agreement to invest and launch the 'Early Warnings for All Action Plan'. Its goal – to provide early warnings for all against increasingly extreme and dangerous weather events.

The changing climate is delivering significant environment, health and safety challenges. When people like Allen Hershkowitz, environmental science advisor to the New York Yankees, comment that "Every community that hosts a professional sports venue, a sports stadium or arena, is going to be affected by global climate disruption, by climate change, whether through storm surges, more precipitation, stronger hurricanes, wildfires, droughts", it's time to take notice.

Also, when the World Economic Forum reports that five of the top 10 long-term risks over the next 10 years are extreme weather, climate action failure, natural disasters, biodiversity loss and human-made environmental disasters (see graphic above), it's time to take action.

One significant initiative is the five-year plan to develop and launch a global warning system estimated to cost US\$3.1 billion, the equivalent of just 50 cents per person per year for the next five years, to help adapt to

climate change. This proposed system will reach everyone with early warnings against increasingly extreme and dangerous weather.

Called 'The Early Warnings for All initiative', it offers an opportunity for all to significantly increase their understanding of risk and extreme weather events, which is the foundation for all climate adaptation strategies. It's an ambitious strategy that calls for every person on the planet to be protected by early warning systems within five years to better anticipate storms, heatwaves, floods and droughts. Why? Because we have all witnessed climate variability and change, and particularly extreme weather events, and how they affect people, their livelihoods and the natural resources on which they depend.

And, with increasing frequency, intensity and duration of extreme atmospheric natural hazard events already occurring and projected to worsen in the coming decades, all climate change adaptation and mitigation strategies should be front of mind. They are for over 100 climate champions that have participated in



climate literacy training programs so they can better understand and address the impacts of the climate crisis and be empowered with the knowledge, skills, values and attitudes needed to act as agents of change.

Peninsula Kingswood Country Golf Club superintendent Glenn Stuart was awarded Climate Champion Certificate Number 1 and was recently joined by Climate Champion Number 100 – Glenelg Golf Club superintendent Tim Warren (pictured below with fellow Glenelg maintenance and clubhouse staff). There are now over 100 climate champions in sports turf with detailed understanding of their influence on climate and climate's influence on them, their teams and the community. They are advancing their universal disaster risk knowledge and are better prepared to identify strategic workplace adaptation and mitigation initiatives. There is no doubt the proposed early warning system will be a valuable asset to all of them.

The estimated new targeted investments of the proposed early warning system will focus on four key multi-hazard early warning system pillars:

- Disaster risk knowledge to better collect data and undertake risk assessments on hazards and vulnerabilities;
- Observations and forecasting to develop enhanced hazard monitoring;
- Preparedness and response to help build response capabilities; and
- Communication of risk that is understandable and reaches all those who need it.

Early warning systems are widely regarded as the 'low-hanging fruit' for climate change adaptation because they are a relatively cheap and effective way of protecting people and assets from hazards. They save lives and provide vast economic benefits. It has been reported that just 24 hours' notice of an impending hazardous event can cut the ensuing damage by 30 per cent.

Harmful impacts of climate change also include direct and indirect consequences for human health. Direct effects include mortality due to heatstroke, natural disasters or extreme weather events. Indirect effects include the spread of vector- and waterborne infectious diseases, intensification of allergies, air pollution, respiratory diseases, morbidity from dehydration or cardiovascular stress and other conditions. Many of these effects are already present throughout the world, such as increased morbidity during heat periods.

In order to safeguard human health, planetary health needs to be protected and promoted and with a weather, climate or water-related disaster occurring on average every day over the past 50 years, boosting the power of prediction for everyone and enhancing their capacity to act is a no brainer. 🌱



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Mount Lawley's green light



In the first of a two-part article, ATM columnist John Forrest looks at the greens replacement program which recently got underway at Perth's Mount Lawley Golf Club.

Mount Lawley Golf Club is considered one of the premier golf courses in Western Australia. It has a strong membership base of men, women and juniors and is in high demand with about 70-75,000 rounds played each year. The course, located just to the north of the Perth CBD, is set on rolling sand dune topography and contains areas of remanent woodlands, with *Banksia* spp, blackbutts (*Eucalyptus tottiana*) and grass trees (*Xanthorrhoea* spp) featuring prominently. A majestic clubhouse sits at the highest point, presenting wonderful views of the course.

While the course layout is strong with a wide variety of holes, many of the greens are small and struggle to handle the amount of play. Starting this July, after a long process, the club has embarked upon a greens replacement program (GRP) to move forward and provide playing surfaces that the members deserve. The GRP will be staged over a three-year period, with 20 green complexes being reconstructed, as well as some tees and the practice tee and clubhouse area.

LOOKING FORWARD

Getting to the point of breaking ground has been quite the process and began even before incumbent superintendent Rod Tatt joined the club in September 2018. In the winter of 2017, OCCM constructed a 19th hole and new chipping green using Carramar plastering sand without any compost being incorporated. Quarters of each green were sown with eight different varieties of bentgrass including 007, Penn A1, Penn A4, MacKenzie, Tyee, T1, L93 and Pure Distinction. Later that year, bentgrass trial plots were set up on the club's turf nursery, with plots of 007, Penncross, Penn A1,

Penn A4, L93, Pure Distinction, SR1150 and Mackenzie, as well as mixed plots comprising MacKenzie/Penn A1, Penn A4/L93 and MacKenzie/Penn A4.

Not long after Tatt's arrival, in 2019 the small practice putting green was boxed out and a different sand was imported to what had been used on the new 19th green. This green was split into two and the profile was amended with 2.5 per cent compost on one side and 5 per cent compost on the other following extensive laboratory testing of the growing medium. Half of this green was sown with 007 and the other half with 777, with both plots crossing over the two growing mediums.

In that same year, Tatt was fortunate to have the club approve a golf course study trip to the US. Travelling with fellow superintendents from Melbourne, the focus was on visiting courses that had upgraded greens to the newer bentgrass varieties and/or had recently been through a greens reconstruction program. The trip also included a visit to Rutgers University where they had the opportunity to assess their extensive bentgrass plots with Dr Richard Hurley.



Mount Lawley's new greens and surrounds were fumigated with EDN prior to being seeded

Opposite: This July saw Mount Lawley GC embark on a three-year greens replacement program. The first lot of works were to greens 1, 7, 8 and 11 (pictured)

With COVID hitting the world, in 2020 the club took advantage during lockdown and closed the greens for three months, spraying out the *Poa annua*, renovating and oversowing them with 007 bentgrass. This was a short-term measure to improve the greens surfaces while the club was planning the reconstruction. This proved a great success as it was also timed with PoaCure (a.i. methiozolin) coming onto the market. There was a vast improvement in the greens surfaces with the percentage of *Poa annua* reduced to under 5 per cent.

Over the last couple of years, a lot of time has also been spent searching for the ultimate sand and amendments for the GRP as well as bunker sand. Extensive tests were undertaken right up to the start of the GRP, with numerous sands analysed for particle size distribution, bulk density, porosity (total, air-filled and capillary) and hydraulic conductivity (under varying rates of compaction). All sands were checked for particle shape as well to be sure that the particles were not weathered and rounded. Ideally, the club was searching for a sand that would produce a firm surface with some ability to hold on to water.

Soil amendment plots were constructed on the club's turf nursery using Carramar plastering sand. Amendments such as compost, biochar, Mineral Magic, zeolite and Profile were used at different percentages and mixes. Comprehensive testing was undertaken, with a final decision to use compost and Mineral Magic in the final rootzone mix.

Southern Sting nematodes (*Ibipora lolii*) have historically had a big impact on the health of Mount Lawley's greens and Tatt wanted to ensure the new greens had every chance to develop unhindered. Sting nematodes are most active in spring in WA, with many samples taken at this time of the year showing juveniles form a high percentage of the population (Ruscoe, P. 2020). As there are no insecticides that will completely eradicate such populations, fumigation using Draslovka's EDN™ fumigant (C₂N₂) was considered the best course of action.

Greens were planted earlier than normal for WA as golf pressure normally means planting in the hottest time of the year. Planting in early spring is an ideal time to enable the greens to be well covered before the hot weather arrives consistently. As mentioned, it is also the ideal time for Southern Sting nematodes and that is where the fumigant plays a significant role.

GREEN LIGHT

Earlier this year the club decided it was time to start the formal GRP process, with



100mm-deep Santa Ana sod has been used torevet the new bunker edges and provide a lip on the short grass side

OCM engaged to complete the design and construction. Mount Lawley course staff would help with the preparation of work zones, construction and grow-in. Tatt's crew includes 10 full-timers, one part-timer and four casuals which can be engaged to help when required. The main issue was getting OCM staff into WA when the state was locked down (were it not for COVID the GRP would have most likely started in 2020).

In July, Mount Lawley members voted on the GRP after a well-attended information night. OCM were there to answer any questions on the new design, while Tatt was able to field any questions relating to the logistics of the construction process and the impact it would have on members. Following that meeting the members voted overwhelmingly to proceed with the GRP, with Stage 1 works (greens 1, 7, 8 and 11) beginning shortly thereafter.

The scope of works with the greens involves;

- Stripping work zones of existing grasses and pruning tree roots;
- Removing old irrigation;
- OCM constructing the new green complex, boxing out greens to 300mm;
- Installing new irrigation;
- Fumigating (using EDN) a 2000m² work zone to provide a buffer between any areas that may have populations of Southern Sting nematodes and the newly shaped and planted greens and surrounds.



Greens were hydroseeded with 007 at 1kg/100m²

- Sand, compost and Mineral Magic blended at the quarry before being delivered and imported into the new green sites;
- Final contouring of greens by OCM;
- Applications of a granular pre-seeder, wetting agent and slow-release calcium, magnesium and phosphorus; and
- Hydroseeding 007 bentgrass at 1kg/100m².

Surrounds are being sodded with Santa Ana couchgrass by Mount Lawley staff who have had assistance from TAFE students. With the bunkers, Mount Lawley staff are taking 100mm-deep Santa Ana sod from nearby fairways and revetting the edges to provide a lip on the short grass side of the bunkers. Santa Ana sod, purchased from a turf farm, is being used on the rough edges and tongues and rolled into the bunkers before being hydroseeded with fine fescue (red fescue).

The greens reconstructed to date have grown in well, with roots visible at the bottom of the hole changer. This is a fantastic result as it has been many years since roots have been that deep. Summer can be brutal in WA and the next few months will put the new greens under plenty of pressure. However, with the extensive work, trialling and testing undertaken, they are starting in a very strong position and will be well equipped to handle whatever Mother Nature can throw at them.

Editor's Note: In the next edition, John Forrest will look at the grow-in, final appearance and results of the construction methodology, as well as examine the design and playability of the new complexes.

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Tim's time in the sun

It is hard not to be impressed when you meet this edition's leadership profile subject in person. Over the past 20 years Tim Hoskinson has carved out a rewarding career in turf management, one which has taken him from the Northern Beaches of Sydney where he served his apprenticeship, to some of the best courses in the US and more recently to the balmy tropics of Far North Queensland.

For the past five years, the now 42-year-old father of two has been heading maintenance operations at Cairns Golf Club, his first posting as a course superintendent. During that time, his passion for the profession has been a constant beacon and together with a dedicated work ethic and a proactive leadership style has steered the club down a path to making some major improvements which has set the course up for a more sustainable future. Let's get to know Tim a little more...

*ATM columnist Ben Gibson
continues his series of leadership
profiles, stopping by Cairns Golf
Club to catch up with course
superintendent Tim Hoskinson.*

Tell us about your journey in turf management and how you ended up being superintendent at Cairns Golf Club? Like many, I didn't know what I wanted to do when I left school. I did, however, know that I liked golf and I enjoyed being outdoors. It seemed like a logical choice to give working on a golf course a shot and, as luck would have it, there was an apprenticeship on offer at Manly Golf Club

in Sydney. I spent four years working under the expert guidance of then superintendent Mick Bradbery before departing Australia as a young lad for an internship through The Ohio Program.

I spent a summer at Robert Trent Jones Golf Club before seeing out the remainder of the year at Scioto Country Club in Columbus, Ohio. Following this I lived on campus at Ohio State University for three months and studied full time which was a fantastic experience. The following summer I worked my first PGA Tour event while at Congressional Country Club.

Upon returning to Australia I spent another four years at Manly, during which time we completed the full course reconstruction. Once this wrapped up, Natalie (now my amazing wife) and I headed overseas. After spending two years living in London plus another year travelling extensively, we knew long-term we wanted to get out of the big smoke.

Cairns Golf Club has been Tim Hoskinson's home for the past five years, his first post as a course superintendent

After a short time at Royal Sydney, we moved to Cairns where I started working at Paradise Palms. Paradise was by far and away the jewel of the north, but after a while there were question marks over its future. I was offered the job at Cairns Golf Club, which was too good to pass up. I definitely landed on my feet as Paradise would sadly end up closing.

Congratulations on the new irrigation system recently installed at Cairns Golf Club – a huge project to undertake. How did that all come about? Thank you. When I arrived at Cairns Golf Club five years ago, I knew the irrigation system wasn't great. After being here for a short while, I downgraded that assessment to 'terrible'! It was by far and away the greatest challenge for the golf club and was something I immediately flagged. The general manager and Board were aware of some of the issues, but not the full extent. I began a period of documentation, focusing on repairs and costs associated with the old system. I also began to highlight the benefits of a new system, which included the reallocation of resources, power savings and significant turf quality improvements across the course.

I was glad the general manager and Board were serious about action, as a new irrigation system had been talked about here for over 30 years. All in all, the process took five years. This included about 2-3 years of investigations and discussion with the general manager and Board and another two for the tender process and installation.

I know you earned yourself a pretty good break after finishing the project. What did you do with your time? The installation was a challenging process. On the back of the COVID pandemic, I hadn't had a decent holiday for the best part of three years and was pretty burned out. My holiday was amazing and included catching up with some old mates and over three weeks of solid family time. I played golf at some of Victoria's best, including Royal Melbourne and Kingston Heath, and rode the Great Ocean Road on motorbikes with great mates. We finished the family holiday off with a week in Melbourne and 10 days in South Australia, including diving with great white sharks off Port Lincoln. It was an epic bucket list trip and family holiday.

Now the irrigation system is complete, what are some of the new areas of focus for the course and the club? The remainder of 2022 has been used to reset and tidy up a lot of loose ends on course. Ideally, I would like to return the course to the conditioning we



Since having children with wife Natalie, Hoskinson's focus has switched. While he enjoys his work, at the end of the day family is far more important

had it (but better for the new irrigation) prior to embarking on anything significant. Having said that, we are installing a trial Capillary Concrete bunker which has been on the cards for a while and will be a good test for our high rainfall climate.

I have also just completed a course report for future works. From here, I will develop a strategic plan for the golf course, which will help futureproof the facility. This will encompass all areas of the property and include key areas such as green, tee and bunker upgrades, while keeping our focus on simplicity and sustainability.

What is at the top of your priority list as a superintendent? Keeping my team both happy and safe is first and foremost for me. Being 'available' during the past year has been a real challenge as I did not have the time I normally do to spend with them. Having said that, I feel they understood this and all did extra to help me out during this time. Of particular note was that not one person took more than a week off during the 11-month project, which I think is a testament to our team environment.

I have noticed you make a real investment in social media and sharing the hard work

of your team. How did this come about and what has the impact been for you?

In general, I am not much of a social media person. I have Facebook but rarely use it, but I started using LinkedIn and got some great feedback. I've had plenty of people get in contact on the back of some of my posts and I really enjoy helping people out where I can. I shout out to my team on LinkedIn with many of my posts, but I also have access to the golf club's Facebook page. I tailor the content slightly differently on there, but I think it's important for our membership to know how much hard work my awesome team puts in for their benefit.

You are the father of two young children. How has that shifted your perspective and has it influenced the way you lead? Having children has definitely made me refocus on what is important. I enjoy my work, but at the end of the day my family is more important. I think having children has also made me more empathetic to people, especially those with kids. It's really impossible to understand how much having children changes your life until you are in that moment.

How would you describe your leadership style? I do my best to be collaborative and encouraging. For me, it's important to have our team buy in to what we are trying to do out on the course. In turn, this keeps them motivated and happy. While I feel I have an overall leadership style, I am also mindful of each individual's needs. Everyone has different priorities and likes to be interacted with in their own unique way. If I can listen to their needs and they feel heard, I believe this leads to a mutual respect. I would also note that I am not afraid of having 'difficult' discussions if they are required. Done the right way, these can, more often than not, lead to an improved working relationship.



In what was one of the club's biggest course improvement projects in its recent history, Hoskinson played a key role in getting a new irrigation system approved and installed



Hoskinson knows that all his work behind the scenes means nothing without the support of his crew

Who has influenced your career and why?

Mick Bradbery at Manly was definitely an early influencer for me. I enjoyed watching Mick's calm demeanour when dealing with any challenge that arose. This was especially true with some of the 'challenging' Board members I saw him interact with over the eight years I spent at Manly. I took a lot from the way Mick treated his team and try to do similar with mine. I have also been heavily influenced by some of the 'not so great' bosses I have had along the way. In general, I have been lucky, but I have had a couple of shockers. I use these people to remind me what not to do, which sometimes can be just as good as remembering what to do.

What advice would you give someone considering a career in turf management or younger staff just starting out?

First, I think people need to be clear about what they want. If they are chasing big dollars and aren't up for a challenge, then this isn't the industry for



A strong work ethic and fostering a workplace culture that is collaborative and encouraging have been the hallmarks of Hoskinson's leadership style during his time at Cairns Golf Club

you. However, if you are willing to put in the effort you can definitely progress quickly, earn a good wage and have some serious fun along the way. Enthusiasm will definitely take you places! Not to mention the travel opportunities, conferences, volunteering opportunities and relationships that come with time.

Are you currently looking for staff? If so, what is your pitch? We have a full crew at the moment and have relatively little turnover which is great. Compared to many others, this is not something that has been a major concern. Perhaps it is a benefit of living regionally, but I also like to think that our team environment, comparatively decent wages and looking after my team helps.

When I do recruit, I tailor my ad to highlight what I can do for them, as opposed to what I expect from the incumbent. At the end of the day, people want to be looked after. As long as they are keen to learn and are willing to put in the effort, I will bend over backwards to

ensure they get whatever they need to keep them happy. Funnily enough, as I finish off this piece, we are just about to head off to brunch together as a team after a super productive green's renovation.

Since you were first asked to write this article, you have had some exciting career developments occur. Can you tell us a little bit more?

Yes, it has been a very tough decision to make, but I have just taken the role as the Northern Queensland manager for Green Options. When Natalie and I drew a list of the pros and cons, it was too good an opportunity to pass up. It will definitely present new challenges, but ultimately I feel it is a decision that will have long-term benefits for both myself and my family.

The hardest part of this decision was to let go of all the things we have been able to accomplish at Cairns Golf Club, especially having just finished the irrigation installation. With that now in the ground, the greatest challenge for the club has been addressed and it will only get easier from here.

I have a great team, most of whom I have brought on myself, and Cairns Golf Club is definitely headed into uncharted territory. I have been blessed to work alongside an excellent Board and have a fantastic relationship with my general manager Matt Bolton. Collectively, we have been able to achieve so much.

While it is sad to leave Cairns Golf Club, I know I will be leaving the facility in a far stronger position than when I arrived. All that being said, I am definitely looking forward to taking my skillset over to Green Options and the significant opportunity that awaits. 📌

While Hoskinson says it will be sad to leave Cairns Golf Club, he knows he is leaving it in a far stronger position than when he first arrived



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Port Kembla GC, NSW

Greg Claydon takes ATM inside his operations at Port Kembla Golf Club, one of the Illawarra region's premier golf courses, where he has been course manager for the past five years.

Course manager: Greg Claydon (49).

Family: Wife Germaine, son Dylan (23) and daughter Brooke (20).

Period as a course manager: Five years.

Association involvement: ASTMA member.

Turf management career: 22 years.

Qualifications: Diploma of Horticulture.

Major hobbies: Surfing.

Where in Australia is Port Kembla GC (PKGC)?

Located in the southern coastal suburbs of the Wollongong LGA (Illawarra region), we are about a one hour drive south of Sydney. The region has transitioned from its early industrial heritage to a vibrant tourist destination known for its spectacular coastlines and recreational pursuits.

The golf club, which will celebrate its centenary in 2023, amalgamated with Wests Illawarra nine years ago. Since then the parent company has committed to raising standards across the business and is a major reason why the club is in the great position it is today.

Tell us a bit about your background and how you started out in the turf industry.

My story is a little different as my background is in amenity horticulture. I left school in Year 10 after securing an apprenticeship with the NSW Government. Back in those days applicants sat a generic test and nominated (in preferential order) which positions were most appealing. I had greenkeeping listed as number one



The Port Kembla maintenance crew comprises (from left) Graeme Brumby, John Duncan, James Russell, Mick Tapping, Dylan Claydon, assistant Phil McGovern, Jy Clapham and course manager Greg Claydon

but ended up successfully interviewing for a gardening apprenticeship with the Royal Botanical Gardens in Sydney. A young bloke from down the coast working in the big smoke equalled exciting times!

Fast forward 10 years and my wife and I had a young son and new house and I was over commuting to Sydney. When an opportunity came up at Port Kembla Golf Club to join the team as a horticulturist I jumped at it. After essentially doing myself out of a job

by converting most of the 'garden' areas to better reflect the surrounding coastal bushland environment, my role became more turf specific and the rest, as they say, is history.

Who were some of your early mentors and what did they teach you about the trade?

Then superintendent Wayne Marland put me on at PKGC and along with his assistant Mark Yates they opened my eyes to the world of greenkeeping. My skill set went to another

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PKGC has undertaken a range of bunker improvement works in recent times under the auspices of Craig Parry. Pictured is the 1st greenside bunker being reshaped

level when Matt Kennedy came on board as course manager. I was lucky enough to spend the best part of 10 years working with Matt where the focus was on developing innovative infrastructure and greens management strategies for drought and flood and everything in between. Key lessons that I continue today is to have a vision, a willingness to experiment and discipline. Great golf courses are a result of sustained expert management – what you get out is commensurate with what you put in.

How did the course manager role come about and what made you put your hand up for it? I had never really craved the top job while the kids were younger as I didn't feel like I could commit fully to that type of role. And let's be honest, being 2IC at a great course with a progressive manager at the helm really is a plum gig. I played an integral role in the development of this course, so when the position did come up I was ready both professionally and personally.

Give us a quick overview of the Port Kembla course and some of its unique characteristics. The club relocated from Hill 60 in Port Kembla to its existing site at Primbee

in 1956. Now recognised as a premier course in the Illawarra region, the championship layout is maintained all year round and provides a challenging blend of tree-lined fairways and strategic water carries. The course was redesigned in 2008 by James Wilcher and offers a mix of holes in terms of length with short, medium and long par fours throughout the course, making for exciting golf from tee to green. Players tell us that driving accuracy is essential to good scoring.

Is it an easy or hard facility to manage? From a turf management perspective what are some of the challenging aspects you face in terms of managing/presenting the course. There are no easy facilities in this job! After 22 years at this site you become intimate with the rhythms of the seasons as well as how the greens respond to new approaches for renovation and renewal. We take great pride in producing high class consistent putting surfaces which are peer renowned for being some of the best greens in NSW.

Since taking over there as course manager, what key changes have you implemented in the way the course is managed? We have

focused on promoting plant health and in particular root health which has enabled us to push the greens a little harder all year round. Staff-wise, I've made changes to the rosters so the full-time staff have a 38-hour week with two full days off.

Outline any major projects that you have undertaken across the course during your time at the helm. Craig Parry has been engaged by PKGC to look at improving the enjoyment factor of the layout. Phase 1 of this project involved the removal of several bunkers which has opened up the approaches to a variety of shots. Phase 2 has involved the reshaping of the remaining bunkers to improve playability and accessibility, the latter being a crucial part in encouraging more players of all abilities to this great game.

How did the COVID pandemic impact your operations and the club? What changes did you have to make in regards to the way you managed the course? Initially the club shut the doors for five weeks while we assessed the best way forward. I stayed on full-time solo with the team doing the odd three-hour shift to keep the greens in reasonable shape. Despite pulling some long days trying to get everything done, I was grateful to have something to do and the serenity on the golf course was next level! Post-reopening we kept our same routines with a focus on minimising our interactions within the team and with members and guests. We were very lucky to have very few COVID cases in the team which meant that impacts on operations were minimal.

Overall how did the club fare through it. As a regional club were the effects harder felt? It was a tough time for all businesses. We were very fortunate that a majority of members could access the course, especially noting the limitations of moving across LGA boundaries during the peak of the COVID-19 restrictions. It also provided the opportunity to introduce and in some cases reintroduce people to this great game. At the time I likened it to Noah's Ark with groups of two going out all day every day! This has not necessarily translated into more members but has definitely provided an uptick in golf in general. The pandemic also gave us the chance to really strip back the business and has now provided us with a blue print for a sustainable future.

What was the most difficult aspect to deal with from your perspective? The uncertainty – not being able to give definitive answers to the crew regarding the future was tough.

PKGC has 1.5 hectares of bentgrass greens - 14 Penn G2 and six Penncross mix. Pictured is the 12th green with the 14th in the background



PHOTO: SCOTT CAMPBELL

Water is obviously a critical issue for any golf course. How is PKGC faring in that department? We access groundwater for irrigation purposes. We are fortunate that it is limitless to a certain extent, however, quality does diminish the drier we get with raised salinity levels the biggest concern.

The weather and climate is always a great leveller for a superintendent and this year was particularly difficult for courses along the eastern seaboard of Australia. What conditions did you have to deal with at Port Kembla? I thought I had seen it all, then along came 2022! Our rainfall records date back to the mid-1960's and in that time the course has only recorded yearly rainfall totals exceeding 1500mm a handful of times. Year to date (November) our 2022 rainfall total stands at 2410mm. We surpassed our former record total of 1900mm in early August! Officially we have lost 67 days to closure but that number is closer to 80 when you factor in inclement weather in and around each rain event.

Our low-lying terrain leaves us particularly vulnerable to extended periods of inundation. The fairway surfaces were hardest hit. Multiple submersions to our lowest fairways ultimately ended with the loss of grass. Nature will find a way though and I have been really pleased with the natural recovery we are experiencing. The remaining bare areas are currently being



PKGC has had nearly 2.5m of rain in 2022, smashing previous records and resulting in extensive course closures

prepped for oversowing. I have been here long enough to know that it is all swings and roundabouts. Indeed, it wasn't that long ago I witnessed a grass fire in the rough on the 4th from a discarded cigarette butt!

The one product I couldn't manage my course without is... The MatchPlay Superior liquid range from Living Turf. The formulations I use have taken our greens to another level.

Do you use volunteers to assist with the management of the course? We are fortunate to have two great volunteer crews. On average

they contribute about 38 man-hours per week. The tasks performed cover the whole gamut of course maintenance and really help us to stay on top of things.

What have you got in your shed? We are currently working with our partners at LandHQ/ John Deere to convert our entire shed to green. In the shed already are 2 x John Deere 2750 E-Cut triplexes, John Deere 7700 fairway unit and a John Deere 1200H bunker bike. We also have a tees mower, a back-up fairway unit, two rough mowers, a spray unit, two utility vehicles, a Kubota tractor that pulls a 2000L



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PKGC's low-lying terrain meant it was vulnerable to extended periods of inundation during this year's heavy rainfall events. Fairways were hardest hit with multiple submersions ultimately ending with substantial turf loss

spray tank, Dakota spreader, Verti-Drain, Case tractor that pulls the topdresser and a 200L herbicide tank, a skid-steer loader and 3-tonne tipper. On the wishlist is a 4-5 tonne excavator as there is a lot of remedial work to be done on drainage, among other things.

Best advice you have received about being a superintendent and who gave it to you?

Not so much advice but a line that really resonated with me came from Matt Bailey (Lynwood CC) that went 'Listen to the bent, it will tell you what it needs'. I use this principle with my team as it really speaks to the importance of the regularity of observation.

What do you think is the most challenging aspect of a superintendent's role today?

The breadth of the role has grown exponentially, particularly the areas of HR, WHS and compliance. The other challenge is that of managing expectations of the course. Golfers are bombarded with images of so-called perfection without being given the context of how it was attained. To that end I communicate

regularly with our members to de-mystify the processes involved in producing top quality playing surfaces.

What have you worked on personally in recent years to improve your skills as a superintendent? Over the past two years I have been a participant in an experiential senior leadership program coordinated by



PHOTO: SCOTT CAMPBELL

Recognised as one of the premier courses in the Illawarra region, PKGC's layout provides a challenging blend of tree-lined fairways and strategic water carries

Regional Development Australia Illawarra. The focus of the program is to develop resilient leaders for the local community. For me personally it has shifted my thinking away from 'managing' to 'leading' and how to draw out the best from those around you.

What has been the most rewarding moment during your time at PKGC? The evolution of the course over the last few years has been really pleasing. Reinforcing this is the positive feedback we get from members, guests and even the odd pro. Knowing that you have played a part in that is very rewarding. 🌱



PKGC is working with partners LandHQ to convert the entire shed to John Deere equipment

AT A GLANCE – PORT KEMBLA GC, NSW

Course specs: Par 72, 6164m. Course is on 66 hectares with 1.5ha of bentgrass greens – we have 20 greens, 14 of which are Penn G2 and the other six are a Penncross mix. We have 1.5ha of tees (Santa Ana couchgrass and kikuyu) and 13ha of fairways and surrounds (kikuyu).

Members/rounds: 550/45,000.

Major tournaments/events: Lake Illawarra Cup, Illowra Cup and women's three-day Illowra Tournament.

Staff structure: Four full-time staff including Greg Claydon (course manager), Phil McGovern (assistant course manager), Mick Tapping (greenkeeper) and Jy Clapham (apprentice). Four permanent part-time

staff – Graeme Brumby (mechanic), John Duncan, Jimmy Russell and Dylan Claydon (groundspersons).

Climate/rainfall: Temperate climate with average rainfall around 1100mm/year.

Terrain/soil types: Flat, low-lying former swamp. Sand.

Water sources/irrigation system: Ground water, bore (uncommissioned). Antiquated hydraulic system.

Cutting heights/regimes: Greens 3mm four times a week, tees and collars 10mm, fairways 11mm both twice/week in peak season.

Renovations: Our major renovation in October consists of a 12mm solid tine, heavy topdress rubbed in and a granular feed. We

have moved away from hollow tine coring since implementing monthly Vertidrain (9mm) and regular dusting (fortnightly during peak growth).

Major disease pressures: The biggest threat to greens health here is Argentine Stem Weevil. Our ASW program starts in August from which point we rotate between various products. We have developed a program that keeps the greens damage free, the key being weekly monitoring of numbers.

Nutrition management: Granular applications at renovation time in October and also in March with a mini reno. The key to our greens performance is the monthly application of liquids for root health and plant vitality.

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To download the Interactive Turf Disease Fungicide Guide, which explains which product should be the first line choice and rotational partner for the main turf diseases, visit syngentaturf.com.au or scan the QR code



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NEW TAKE-ALL REGISTRATION FOR DEDICATE FORTE STRESSGARD

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has recently confirmed the registration of a label extension to Envu's Dedicate FORTE

Stressgard turf fungicide to include take-all patch (*Gaeumannomyces* spp.).

"*Gaeumannomyces* species continue to be one of the most challenging ectotrophic root-infecting fungi for turfgrass managers to combat," says Jyri Kaapro, senior market development specialist (Turf and Ornamentals) at Envu. "We therefore invested in efficacy trial work with Dedicate FORTE Stressgard to ensure our turf managers have a new, powerful option to control this disease."

Take-all diseases of turfgrass are caused by *Gaeumannomyces* fungal species with both cool- and warm-season turfgrasses being affected. Above-ground injury symptoms are due to root infection below ground, because the fungus disrupts vascular tissue. Roots of infected grass are colonised by dark brown to black ectotrophic runner hyphae.

Cultural practices that are successful in reducing take-all rely on maintaining soil pH between 5.5-6.0.

Take-all severity can be reduced by including manganese in nutrition programmes, with fungicides often used in conjunction with cultural strategies.

"Dedicate FORTE Stressgard provides an excellent option for preventative control and should be applied in the spring and autumn when the fungus is active," says Kaapro. "Make two applications

28 days apart prior to conditions becoming favourable for disease development."

Kaapro notes that when applying to target take-all patch, or other rootzone diseases such as fairy ring or brown patch, turf managers should use a high water volume and most importantly apply sufficient irrigation as soon as possible after application to wash the product into the rootzone. As Dedicate FORTE Stressgard is an acropetal systemic fungicide (i.e. moves up in the plant), turf managers will also see protection of above-ground plant parts from fungal organisms once the active has moved up from the plant roots to the leaves and stems.

Another feature of Dedicate FORTE Stressgard is that it is rainfast once dry, which

is about 30 minutes depending on weather conditions. Kaapro says this makes Dedicate FORTE Stressgard an ideal choice of fungicide when targeting above-ground diseases like dollar spot and anthracnose, especially when wet weather is frequently occurring.

Until updated labels appear on the physical product, the newly registered product label can be downloaded from www.au.envu.com/turf-and-ornamental-management/products.

TORO AUSTRALIA APPOINTS NEW COMMERCIAL BUSINESS MANAGER



ASTMA Platinum partner Toro Australia recently consolidated its business into three units – Garden and Trade Irrigation, Residential Landscape Contractor Equipment and Commercial (Equipment and Irrigation). Following on from that, Toro has appointed **Anthony Lonergan** (pictured) to the role of business manager Commercial (Equipment and Irrigation) effective from late October. Lonergan's team will look after all Toro golf, sportsfields and grounds and agriculture customers as well as Toro service centres.

Lonergan joins Toro from the First Five Group where he was chief operating officer. With a career that began in sales and marketing, he has worked across a wide range of industries and functional areas including large and complex tender projects, mergers and acquisitions and strategic planning, along with prior experience of large scale grounds maintenance through his time with Spotless Group.

Further to Lonergan's appointment, a number of Toro team members have transitioned into regional sales manager roles, looking after irrigation and commercial equipment customers and projects. These include **Sheldon Simmonds** (Queensland), **Mark Johnson** (NSW and ACT), **Patric Soussan** (Victoria and Tasmania) and **Chris Linklater-Williams** (WA, SA and NT).

TIERNEY JOINS TOOLBOX TEAM



Following consistent growth of its NSW and ACT client base, The Toolbox Team has appointed **Matt Tierney** (pictured) as client manager for NSW/ACT. Sydney based, Tierney has a career spent in the golf club and turf maintenance industry, including as a trainee professional. Tierney has a strong background in WHS compliance and experience managing and supporting software in golf. Tierney is currently a construction greenkeeper at Pymble Golf Club in Sydney.

"I am thrilled that we can bring someone of Matt's calibre into the team to support our clients," says The Toolbox Team chief

executive Ben Gibson. "We owe a huge debt of gratitude to David Stone at Pymble for recognising Matt's talent and putting us together." Tierney will start his new role in early 2023 and will be contactable on 0437 305 484 or email matt@thetoolboxteam.com.au.

TURF AUSTRALIA APPOINTS NEW CHIEF EXECUTIVE



Turf Australia announced in late November the appointment of **Matthew Lunn** (pictured) as its new chief executive officer, starting in early January 2023. Lunn has worked in the horticultural industry for over 35 years and brings a wealth of knowledge and experience in association management, with the past six years as chief executive of the Nursery and Garden Industry WA and also as executive officer of the Landscape Industries Association WA of note.

Lunn's initial training has taken him from the famous Royal Horticultural Society's Wisley Garden (UK) to Sydney University where he studied a Graduate Diploma in Turf Management under the stewardship of Prof. Peter Martin. Although he will continue to be based in Perth, Lunn has already indicated a considerable amount of time will be spent visiting the state associations and its members, as well as reshaping the organisation at an advocacy level so that it competes at the highest level as a peak body for all those involved in the turf industry.

HMA LAWN MOWER PRODUCTION EXPANDS

Honda Motorcycle and Power Equipment recently announced that it will be shifting its American lawn mower production to Australia. Following news that lawn mower production would be ceasing at its North Carolina Manufacturing facility in the United States from September 2023, the company confirmed in November that production would be moving to Honda Manufacturing Australia's (HMA) base in Melbourne.

Honda Australia is the only major power equipment brand with its own Australian based production factory which is located in the northern suburb of Somerton. For almost 35 years HMA has been producing the HRU Buffalo series of lawnmowers (alongside a range of line-trimmers and brushcutters), with the first lawnmower being built on 17 February 1988.

The Australian designed and assembled lawnmowers are built specifically for Australian conditions with models applicable to domestic and commercial customers. Over recent years, the HMA factory plant has ramped up production capacity as demand for high quality Australian built products continues to increase both locally and around the world. 🌱



ASTMA CERTIFICATION PROGRAM

The ASTMA congratulates the following sports turf managers who have achieved certification and can proudly use the 'Certified Sports Turf Manager' (CSTM) designation after their names...

Tim Allen The National Golf, Belgium	Adam Fry Kooyonga GC, SA	James Newell Magenta Shores G&CC, NSW
Dean Bailey Rosanna GC, Vic	Ryan Fury Killara GC, NSW	Kelvin Nicholson Palmer Coolum Resort, Qld
Shane Baker Mosman Park GC, WA	Jake Gibbs Elanora GC, ACT	Matthew Oliver Suncorp Stadium, Qld
Brett Balloch Anglesea GC, Vic	Danny Hack Wellington Shire, Vic	Shaun Page Southern GC, Vic
Ed Barraclough Cardinia Beacons Hills GC, Vic	Cameron Hall Kew GC, Vic	Luke Partridge Manly GC, NSW
Mark Bateman Koorringal GC, Vic	Gareth Hammond Terrey Hills GC, NSW	Mick Pascoe Noosa GC, Qld
Tim Bayard Evergreen Turf, Vic	Brendan Hansard Kew CC, NSW	Ben Payne Peninsula-Kingswood CGC, Vic
Duncan Begley Horizons Golf Resort, NSW	Dean Hardman Indooroopilly GC, Qld	Michael Pearce RACV Torquay GC, Vic
Nathan Bennett The Royal Adelaide GC, SA	Nick Harris Wentworth Club, UK	Jeff Powell Ballarat GC, Vic
John Berthon St Georges Basin CC, NSW	Marcus Hartup Vattanac Golf, Cambodia	Keegan Powell The Sands Torquay, Vic
Paul Bevan GTS, Qld	Mitch Hayes Living Turf, Qld	Luke Primus Deakin University, Vic
Shane Bissek Tablelands Council, Qld	Martyn Hedley Landscape Solutions, Qld	Scott Prince Manningham City Council, Vic
Robert Bloom Pelican Waters, Qld	Matthew Heeps Evergreen Turf, Vic	Shaun Pritchard PEGS, Vic
Andrew Boyle GTS, Vic	Luke Helm Meadowbrook GC, Qld	Justin Rankin Kooindah Waters GC, NSW
Justin Bradbury Camden GC, NSW	Tony Hemming Optus Stadium, WA	Peter Rasmussen STRI, Hong Kong
Nathan Bradbury Nuturf, NSW	Kirsty Herring Mackay Regional Council, Qld	Marc Raymond Waterford Valley GC, Vic
Harry Brennan Dubbo City Council, NSW	Tim Hoskinson Green Options, Qld	Scott Reid Launceston GC, Tas
Brendan Brown The Sands Torquay, Vic	Ian Howell Bonnie Doon GC, NSW	Lachlan Ridgewell Blacktown ISP, NSW
Fraser Brown Lake Karingup CC, WA	Rhys Hunichen Atlas Golf Services Vic	Brent Robinson New South Wales
Ben Bruzgulis Cronulla GC, NSW	Jay Infanti Eastern GC, Vic	Chris Rogers Portsea GC, Vic
Hamish Buckingham C'wealth GC, Vic	Nick Jeffrey St Joseph's College, Qld	Brett Saggus BRG Legend Hill, Vietnam
Chris Burgess Yarrawonga Mulwala GC, Vic	Mark Jennings Racing Victoria, Vic	Wesley Saunders Dunblane New GC, UK
Greg Burgess K&B Adams, Vic	Steven Johnson Al Mouj Golf, Oman	Robert Savedra Wesley College, Vic
Jacob Burrige Victoria GC, Vic	Jason Kelly Royal Fremantle GC, WA	Travis Scott Riversdale GC, Vic
Jason Bushell Rowes Bay GC, Qld	Nick Kinley Hartfield CC, WA	Bill Shuck Evergreen Turf, Vic
Aaron Cachia Toronto CC, NSW	Dylan Knight Gisborne GC, Vic	Cameron Smith Bonnie Doon GC, NSW
Malcolm Caddies Kai Tak, Hong Kong	Blaine Knox Palm Meadows GC, Qld	Gary Smith Commercial Albury GC, NSW
Stuart Campbell Maroochy River GC, Qld	Lance Knox Busselton GC, WA	Jacob Smith The Coast GC, NS
Brad Carey Riversdale GC, Vic	Steve Lalor Townsville GC, Qld	Thomas Smith STRI Australia
Patrick Casey Kalgoorlie GC, WA	Kane Latham The Australian GC, NSW	Mathew Soles Roseville GC, NSW
David Cassidy The Cut, WA	Nick Launer Keysborough GC, Vic	Liam Somers Hamersley GC, WA
Brian Cattell Wagga Wagga CC, NSW	Ben Lavender Newington College, NSW	Clinton Southorn Troon International
Peter Cawsey Eastwood GC, Vic	Jason Lavender Beenleigh RSL & GC, Qld	John Spraggs Royal Wellington GC, NZ
Paul Chalmers Tamworth JC, NSW	Dean Lenertz St Michael's GC, NSW	Daniel Stack Windaroo Lakes GC, Qld
Brenton Clarke Warrnambool GC, Vic	Dean Lewis Thurgoona CC, NSW	Kenji Steele Riverway Stadium, Qld
Dan Cook The Australian GC, NSW	Josh Leyland Box Hill GC, Vic	David Sutherland The Ridge GC, NSW
Lincoln Coombes RACV Royal Pines, Qld	Nathan Lindsay Marrickville GSCC, NSW	Lee Sutherland St Michael's GC, NSW
Phillip Cooper GTS, NSW	Peter Lonergan CTHGC, NSW	Shay Tasker Carnarvon GC, NSW
Dion Cope Redland Bay GC, Qld	Ben Lucas Tocumwal GC, NSW	Aaron Taylor Cronulla GC, NSW
Mick Cornish Cazaly's Stadium, Qld	Toby Lumsden ICC Academy, UAE	Heath Taylor Blacktown ISP, NSW
Shaun Cross Byron Bay GC, NSW	Bruce Macphree ASTMA, Vic	Nigel Taylor Sports Turf Solutions, Malaysia
Joshua Cunningham All Outside, NSW	Stephen Mallyon Renworx, NSW	Shaun Taylor Southern GC, Vic
Bruce Davies CIT, ACT	Dave Mason Brisbane GC, Qld	James Thomas Bayview GC, NSW
Luke Diserens Roseville GC, NSW	Garry McClymont Twin Waters GC, Qld	David Thomson Bermagui CC, NSW
Nicholas Douglas Cranbourne GC, Vic	Mick McCombe Maleny GC, Qld	Colin Thorsborne Parkwood Village, Qld
John Downes Regional Turf and Hort, Qld	Tony McFadyean Programmed, WA	Ben Tilley Headland GC, Qld
Mark Doyle Hume City Council, Vic	Paul McLean Sanctuary Cove G&CC, Qld	Steve Tuckett Holmesglen TAFE, Vic
Cameron Dunn Woollooware GC, NSW	Michael McMahon GTS, Qld	Dallas Voss Grass Up, Vic
Peter Dunn Federal GC, ACT	Peter McNamara Queensland	Michael Vozzo Fertool, Vic
Ben Evans Ryde TAFE, NSW	Ryan McNamara Rosanna GC, Vic	Earl Warmington Newcastle GC, NSW
Tim Fankhauser ASTMA, Vic	Keith McPhee Maitland City Council, NSW	Tim Warren Glenelg GC, SA
Timothy Fewster Doncaster BC, Vic	Brett Merrell Merrell Golf Consultancy	Rob Weiks Hoiana Shores GC, Vietnam
Peter Fitzgerald Belmont G&BC, NSW	Daniel Metcalfe Beverley Park GC, NSW	Shannon White Baileys Fertilisers, WA
Aaron Fluke NSWGC, NSW	Kieran Meurant North Sydney Oval, NSW	George Widdowson Eden GC, NSW
Matthew Foerander Keysborough GC, Vic	Jack Micans Elanora GC, NSW	Darren Wilson Wembley GC, WA
Jason Foster Riverway Stadium, Qld	Braydan Millar Rowes Bay GC, Qld	Issac Wojewodka Camden GC, NSW
Jason Foulis HG Turf, Vic	Ben Mills Hawks Nest GC, NSW	Simon Wood Sth Metropolitan TAFE, WA
Patrick Fraser Green Options, NSW	Craig Molloy Barwon Heads GC, Vic	Tim Wright K&B Adams, Vic
Peter Fraser Hervey Bay G&CC, Qld	Colin Morrison AIMU P/L, Vic	Matthew Young Moonee Valley CC, Vic

For more information on the ASTMA Certification Program visit www.astma.com.au

TURF QLD



2022 has been a year of rebuilding for Turf Queensland (TQ). Last year, Turf Queensland president **Hugo Struss** spoke of a new beginning for TQ, with an objective to reach out into the industry and bring people together. 2021-2022 saw our small Board and active members bring this vision to life and it has been wonderful to see the momentum building.

TQ has revamped its field days, is working closely with the Queensland Farmers Federation (QFF) on the Farm Business Resilience Program, has hired a new industry development officer and established key partnerships with industry leaders like RDO Equipment. The Board is looking ahead and excited for what 2023 will bring.

BOARD AND STAFF UPDATES

The 2021-22 Board said goodbye to long-standing board member and industry friend **Greg Banff** from Golden Finch Lawns. Greg served on the Board through the highs and lows with unwavering support. TQ, as a relatively young Board, appreciated his guidance and experience when planning for a new direction and owe him a big thank you.

Losing a member from the Board allowed **Corey Fordyce** from Marian Lawns to step up. Corey has been a great support and advocate for regional growers and TQ sees this continuing as it pushes events north to regional members. Through the watchful eyes of treasurer **Emma Burstall** (TurfBiz), the Board has been able to not only build a stable financial platform but also engage with QFF to deliver the Farm Business Resilience Program (FBRP). This fiscal progress led the TQ Board to employ **Rebecca Cross** as industry development officer (IDO).

TQ recently conducted its AGM with three new Board members welcomed – **Renee Davidson**, **Lachlan Moncreiff** and **Matt Heilig**. We all look forward to what this team of determined, dedicated, committed and passionate turf growers can achieve within the next year. The full TQ Board comprises:

- **President:** Hugo Struss (Tinamba Turf)
- **VP:** Greg Pelka (Rosemount Turf)
- **Treasurer:** Renee Davidson (Jimboomba Turf)
- **Secretary:** Corey Fordyce (Marian Lawns)
- **General committee:** Emma Burstall (TurfBiz), Sarah-Jane Mason (Coastal Turf), Michael Newton (Turfworks Group, Bay Turf), Lachlan Moncreiff (Paragon Gardens) and Matt Heilig (GoTurf)

As Hugo stated at the AGM: *"I'm grateful for all of those who have been involved and as a team I'm certain we will see more growth in the year ahead. TQ has begun to build awareness of our growers within the government bodies who support us. We have*



Turf Queensland hosted two 'Paddock to Pitch' field days in 2022 which showcased new technology and equipment

created great relationships with QFF, new growers and the Board has made sure that our growers have been at the forefront of our plans. Above all, I'm confident that we have left our farming community in a better place than before we started the year."

PADDOCK TO PITCH

Turf Queensland hosted not one, but two field days in 2022. Our aim was to connect to the industry and offer a face-to-face event that would bring people together and showcase new technology and equipment.

The first 'Paddock to Pitch' event was hosted regionally at Marian Lawns, just out of Mackay. Marian Lawns is a family-owned business that has spanned three generations of farmers working with and producing quality turf. Proud to be local and to have over 40 years in the business, Marian Lawns were a fantastic host. Their keenness to help and support the field day and their professionalism in ensuring the day ran smoothly and successfully was not unnoticed. A big thank you to Marian Lawns and the Fordyce family.

Running in conjunction with this event was Turf Australia's NxGEN conference. This was a fantastic opportunity to run these separate events together, with members/growers from out of state in attendance.

The second Paddock to Pitch event, which had a 'Renovation Rumble' theme, was hosted in Brisbane at Sherwood Magpies AFC. This was a great opportunity to utilise a sportsground that had been put to work over the sports season. A huge thank you to John and the volunteer club members that helped support the day.

Both Paddock to Pitch regional and metro events ran in a similar format, with exhibitor stands lined across the fields and demos of machinery and equipment in designated areas. The Sherwood event also saw ICL trials, which highlighted the importance of nutrition within natural turfgrass. Paddock to Pitch also hosted presentations targeted not only at farmers, growers and sports turf management professionals, but also shared relevant information for homeowners.



The 2022 field days were a great success, with feedback from attendees and exhibitors stating both were valuable events that ran well. We do acknowledge that our timeline for the events was fast-tracked and notice periods were short. We will be working on this for future events to maximise event reach.

A huge thank you to those organisations who supported the day and have continued to support the Paddock to Pitch event. A special mention must go to RDO Equipment, ICL and Living Turf who have continually partnered with TQ, STA Queensland and the GCSAQ. We look forward to strengthening these relationships and giving back to our supporters.

We are now looking into venues for our 2023 field days. If you know of a good site for this event, whether it would be regional or metro, email ido@turfqueensland.org.au.

QUEENSLAND FARMERS FEDERATION (QFF)

In 2021-22, QFF engaged Turf Queensland, along with their other industry members, to undertake extensive water advocacy work. QFF made six submissions on water policy and regulation that impact Queensland's primary producers, resulting in input into the development and changes to policy and water efficiency projects, including a more efficient water planning delivery process.

A major water win for turf was that of the SEQ water price freeze. When the Labour Government made an offer to halve the water costs for horticulture but didn't follow through for turf, TQ partnered with QFF and held them accountable. As the State Government didn't include turf within the definition of horticulture, TQ advocated for the industry with QFF supporting this in parliament. Not only did turf get recognised as 'horticulture', but TQ growers in SEQ got a price freeze rather than the initial proposal of halved water costs.

This strong relationship and stakeholder engagement demonstrates the importance of advocacy within industry. We hope to have another win within the work focused on energy, with our regional growers undergo huge shifts in their energy tariffs.

Being part of the work QFF are doing, to make sure turf producers are not only considered but prioritised, is a TQ Board key motivator. TQ are grateful for the work that Sharon, Kerry, Bec and the rest of the QFF team do. TQ looks forward to continuing the relationship with QFF into 2023, especially around the Farm Business Resilience Program.

FARM BUSINESS RESILIENCE PROGRAM

Turf Queensland is working with QFF in support of the Queensland Government's Farm Business Resilience Program (FBRP). This is a program that helps to support farmers by preparing and managing business and climate risks and formulate documentation to receive grants and loans from the Queensland Rural and Industry Development Authority (QRIDA).

It is essentially taking your business plan and ensuring you are asking the right questions and preparing for the right things in order to get funding. TQ is involved to support turf growers through this process – to support in writing documents, to provide consultancy services with cash back, to guide and notify through next steps, to provide loan and grant support, to provide resources and information sessions and to be a personal advisor.

TQ is working with several growers, with the support of Moshie, and are tracking really well across this project. Growers are completing a FBRP to build the strategic management capacity of their farms to prepare for and manage business and climate risks and improve economic, environmental and social resilience.

It is important to note that in order to apply for drought assistance grants and loans, a FBRP is required. TQ recommends all farm businesses to act sooner rather than later and take advantage of the supports within this space that are currently offered. If the FBRP is of interest to any turf growers, please reach out to Rebecca Cross as TQ is planning information sessions and workshops for early 2023.

ROLL ON 2023!

To everyone and anyone that has been part of Turf Queensland's movements and activities this year, the Board thanks you and looks forward to continuing to deliver to the industry. President Hugo Struss is excited to continue the momentum 2022 has brought to the association and industry, with the prospect of more to come in 2023. For more information about TQ and to keep up to date with our news and events, visit www.turfqueensland.org.au.

REBECCA CROSS
IDO, TURF QUEENSLAND



NICHOLSON TAKES OUT GCSAQ TOP HONOUR

The Queensland Golf Industry Awards were held on Tuesday 25 October at The Star Gold Coast, with Palmer Cooloom Resort course superintendent **Kelvin Nicholson** (CSTM) receiving the GCSAQ's top award – the Living Turf Superintendents Achievement Award

Nicholson was joined by Redcliffe Golf Club's **Matt Kelly** who won the OCM & Greenway Turf Solutions Assistant Superintendents Recognition Award and Maroochy River Golf Club's **Daniel Fulcher** who was named the Toro GCSAQ Golf Course Turf Apprentice of the Year.

Nicholson, who has been superintendent at the Sunshine Coast course for the past three-and-a-half years, was acknowledged for his efforts in continuing to regenerate the former Australian PGA Championship host venue to its former glory. Posting on LinkedIn following his acknowledgement, Nicholson paid tribute to his crew as well as general manager **James McDonald**.

"It was an honour at the Queensland Golf Industry Awards to be awarded the GCSAQ 2022 Superintendents Achievement Award. Individual awards are rewarding but it couldn't have been achieved without the help of all the team at Palmer Cooloom Resort, and it was great to have some of them on hand to celebrate it with them.

"Also a massive thanks to my general manager James McDonald; it is amazing what can be done when you have a GM that backs you 100 per cent, accepts your knowledge and ideas and helps you through all the highs and lows, the good times and the bad. Thanks James you really are instrumental in reigniting my passion for our wonderful industry. Really looking forward to what is ahead!"



GCSAQ Award winners Kelvin Nicholson (top), Matt Kelly (middle) and David Fulcher (bottom)

VGCSA

Record rainfall has made for a challenging spring across Victoria. For many it must seem that there is no end in sight, especially courses that have remained flood-affected and inoperable since mid-October. Disheartening too when attempts to clean up are deterred by more relentless rain. In seeing some of the images of clubs affected, our thoughts go out to everyone who has been hit hard. These include Axedale, Barwon Valley, Denilquin, Green Acres, Kew, Latrobe, Mooroopna, Shepparton, Rosanna, Werribee Park, Yarrawonga and I am sure there are so many others not mentioned here. We hope that everyone gets some relief from this weather soon.

We have just completed the last of our educational activities for 2022 with **Dr Phil Ford** conducting an intensive two-day fungal/nematode microscope masterclass at Melbourne Polytechnic. Joining him were **Nadeem Zreikat** (Colin Campbell Chemicals) and **Craig Burleigh** and **Jyri Kaapro** (both Envu) who offered their expertise in nematicide and fungicide applications. The workshops received plenty of positive feedback.

In August, the VGCSA, in partnership with John Deere, launched the inaugural VGCSA-John Deere New Zealand Scholarship. This will see the successful recipient undertake a one-week work experience residency in April 2023 at Tara Iti Golf Club, along with specialised training at FMG Stadium and an educational tour of the Tieke Golf Estate in



Dr Phil Ford recently conducted an intensive two-day fungal/nematode microscope masterclass at Melbourne Polytechnic

the Waikato district. The application round proved to be a great success, with panel judge **Tim Gammage** from John Deere stating that the calibre of applicants was excellent and included all levels of skillset and experience which made for a very considered selection process. The VGCSA was delighted to announce that Yarra Yarra Golf Club foreman **Mitch Novak** was the successful candidate.

In other great news, the VGCSA Golf Turf Apprentice of the Year will also be awarded the NZ Scholarship residency in April 2023. With panel interviews taking place in December, the VGCSA looks forward to announcing the winner early next year.

As the year comes to a close, we look forward to our general meetings program for next year, along with new specialised training workshops and further professional development initiatives for VGCSA members. The committee and I will be meeting in the coming months, starting the new year with a dedicated planning day to ensure all is in order for the year ahead. Our 2023 events so far include:

- **Education Meeting (2 March):** The National GC (sponsored by ADE Turf Equipment and Oasis Turf);
- **VGCSA 96th Annual General Meeting (4 May):** Sorrento GC (sponsored by Greenway Turf Solutions and Toro Australia);
- **Course Staff Education Meeting (6 June):** Koorringal GC (sponsored by Colin Campbell Chemicals and Greenway Turf Solutions);
- **Country Meeting (31 July – 2 August):** Rich River GC (sponsored by Adama, Brandt, Colin Campbell Chemicals, Envu, K&B Adams, Kustom Bind, Living Turf, Rain Bird, Syngenta, The Toolbox Team, Toro, Turf Culture and Turfcare Australia);
- **Education Meeting (5 September):** Curlewis GC (sponsored by Syngenta).

All of us here at the VGCSA wish everyone all the best for the coming season.

MARY NAPIER
CEO, VGCSA

FORSYTH INDUCTED INTO VICTORIAN GOLF HALL OF FAME

Royal Melbourne Golf Club director of courses **Richard Forsyth** has received one of the highest honours in the Victorian golf industry after being inducted into the Victorian Golf Hall of Fame. In front of more than 200 people at the annual Victorian Golf Industry Awards held in late October, Forsyth received a standing ovation as he, along with long-time Chirnside Park general manager Barbara Kelly, were officially inducted for their incredible contributions to the game over a long period.

Instituted back in 2011, the Victorian Golf Hall of Fame includes the likes of playing legends Peter Thomson, Ivo Whitton and David Graham, along with a who's who of golf administrators, course architects and a number of former superintendents. Forsyth joins exalted company, with past inductees including his Royal Melbourne predecessors **Mick Morcom** and **Claude Crockford**. Morcom, who was head greenkeeper from 1905 to 1937, was inducted in 2016, while Crockford, who took over from Morcom and held the role of course manager until 1975, was inducted the following year.



Richard Forsyth's family were at the awards night to see him inducted into the Victorian Golf Hall of Fame

"When I was notified of the award I was very surprised but proud to be included in such illustrious company," says Forsyth, whose family was there on the night to witness his induction. "To be mentioned alongside course construction and maintenance elite Morcom, Crockford and Berriman is an honour.

"As I said on the night, I have been fortunate to be involved with some wonderful clubs over more than 40 years, with so many fantastic people that have supported and assisted me in many ways to ride the bumps in the road when you are growing turfgrass for a living. Special thanks to my wife Romani

and sons David and Patrick for their support, understanding and sacrifices made over the journey. I look forward with great excitement and enthusiasm for the years ahead with much to be accomplished at Royal Melbourne."

One of the doyens of the course superintendent fraternity, Forsyth has carved out a venerable career. The VGCSA life member cut his teeth as an apprentice at Riversdale Golf Club in Melbourne before further honing his skills up on the Murray. After time as an assistant at Yarrawonga, he headed to Swan Hill and played a key role in the construction of Murray Downs G&CC.

Returning to Melbourne in 1994, Forsyth spent 15 years at Metropolitan Golf Club before taking on the Royal Melbourne role in 2009. Since then he has overseen some major course infrastructure and turf management projects as well as host some of the biggest events in world golf, among them the 2011 and 2019 Presidents Cup tournaments. Forsyth's accolade came just a few days before Royal Melbourne was announced as host of the 2023 Asia Pacific Amateur Championship which will take place next October.

TSTMA



Blundstone Arena in Hobart recently hosted nine games of the 2022 ICC T20 World Cup in just seven days. The team at Blundstone Arena, which is understaffed at the moment, sent out a message to the Tasmanian turf community for some help during the tournament and was delighted to have a great response.

True to form **Chris McKenna** from University of Tasmania Stadium in Launceston volunteered to lend a hand the week prior to the fixtures. During the games **Richard Lancaster** from TAFE Tasmania helped for three days, while Devonport Country Club third year apprentice **Sam O'Mahoney** came down and helped out for nine days. These guys were instrumental in getting the ground and pitches up to an excellent standard and they were involved in all facets of preparation. A big thank you to **John Kedey** (UTAS Stadium curator) and **Craig Walker** (superintendent Devonport CC) for their support in allowing their staff to lend a hand and gain experience.

The World Cup was then followed by a WBBL hub which saw five games in five days. This hub gave the opportunity to again promote female sports turf managers through the ASTMA's Women in Turf Strategy, with **Kim Kennedy** (Kingston Heath GC) and **Tahlia**



Devonport Country Club hosted the 2022 Tasmanian Amateur in November

Bruce (Golf Central, Brisbane) joining the Blundstone Arena team for seven days. They fitted in seamlessly with existing female crew members **Sam Butler** and **Kelsey Lovell**, handled their tasks with aplomb and were very capable workers. Thank you to the ASTMA's **Simone Staples** for her assistance in making this work placement happen.

Elsewhere, **Jason Sims** recently hosted back-to-back WBBL games at the Latrobe Recreation Ground. Mother Nature put a spanner in the works in the days leading up to play, but as usual Jason and his team provided a great deck on one of the best rural grounds in the state. Devonport CC

hosted the Tasmanian Amateur Championship from 19-21 November with over 40 interstate competitors. The crew had the course in first class condition, with the firm and fast greens providing a challenge for players to shoot low.

And finally, the TSTMA held a walk 'n' talk event on 29 November at the new 7 Mile Beach golf course site just outside of Hobart. Sponsored by Living Turf, it provided a great opportunity to see the construction of this new course, with host superintendent **Anthony Toogood** conducting an informative tour.

MARCUS PAMPLIN
PRESIDENT, TSTMA

ACTSTMA



As I write this in the final few days of November, here in the nation's capital we have at last had a couple of weeks of drier weather, although we are still yet to see temperatures get over 24 degrees.

A big congratulations to the following candidates who have made it through to be interviewed for the ACTSTMA Graduate of the Year Award – **Ross Harris** (Narooma Bowling Club), **Rachael Seiler** (Green Options), **Lachlan Deep** (Garangula Polo Club), **Riley Willcox** and **Milo Dowling** (both Gold Creek CC). Interviews will be carried out before Christmas to determine this year's winner

who will attend the Australian Sports Turf Management Conference next June.

Sadly, here locally we are saying goodbye to local Canberra Institute of Technology (CIT) teacher **Bruce Davies** who will be retiring at the end of the year. Bruce has dedicated an amazing 32 years to teaching at CIT and will be a massive loss to our industry. A huge thank you to Bruce for all your knowledge and hard work over the years.

Another shoutout to local curator **Mark Barrett** who after 18 years of service has decided on a change of scenery and has left GIO Stadium to join the team at the AIS.

Massive congratulations to Mark for the wonderful job he has done looking after the surface at GIO Stadium and many other local sporting ovals over his tenure.

It was great to see Manuka Oval looking a treat for the Australia v England T20s and the four-day Prime Ministers XI match against the touring West Indies. Congratulations to curator **Tom Fahey** and his team at Cricket ACT. I hope everyone has a great Christmas and New Year and here's hoping for a drier 2023.

SIMON SNEDDEN
ACTSTMA COMMITTEE

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TURF NSW



It has been a mixed year for turf producers in NSW. Unfortunately, floods continued to torment and challenge many growers, with the July 2022 floods again targeting the already drenched growers in the Sydney regions and coastal areas. More recently the regional areas have been hit with flooding as well. While our Sydney and coastal growers have had a few months of drier weather, there is still a lot of damage to paddocks and riverbanks that are an ongoing recovery process. Here's hoping 2023 will provide some relief and good growing weather to replenish turf supplies.

The year has been wrapped up with a growers meeting and AGM held in November. The meeting gave members an opportunity to get insight into the flood recovery and resilience funding granted to Turf NSW and good discussions were also held on the draft guidelines for the Turf Production Transport Mass Management project.

The Turf NSW AGM was held with **Troy Franks** from Dad & Dave's Turf continuing as president. He is joined by **Paul Saad** (Southern Cross Turf) as vice president, **Anthony Muscat** (Greener Lawns) as treasurer and a general committee that comprises **Joshua Muscat** (Greenlife Turf),



Troy Franks (Dad & Dave's Turf) was re-elected as Turf NSW president at the November AGM

Patrick Muscat (Musturf) and **Dave Raison** (Greenspace Turf Co-op).

Following four-and-a-half years with Turf Australia, I am pleased to confirm that I am now in the role of executive officer for Turf NSW working four days a week (and one day with STA NSW). A key focus for the role will be the management of the flood recovery and resilience projects. These projects consist of several different tasks that will assist the

industry in the process of recovery as well as prepare turf producers for managing floods in the future. From clearing creek systems for improved flood water flow to understanding the impact and management of silt after a flood, these projects cover it all and will provide valuable data and a library of knowledge on flood management for future generations of turf producers.

In addition to the flood projects, the University of NSW has been awarded a third project for the turf industry on drought management and the use of ultrafine bubbles in turf production irrigation. More information will be provided as the projects progress.

I look forward to advocating for the NSW turf industry and ensuring that natural turf is the first choice. This will involve some work with our state and local governments and sporting bodies, as well as working with others in the industry. Feel free to contact me if you wish to discuss anything turf in NSW.

On behalf of Turf NSW, I wish everyone the best for the Christmas and New Year period and hoping that 2023 is a prosperous and productive one for the turf industry.

JENNY ZADRO
EXECUTIVE OFFICER, TURF NSW

TMSA



The past few months has seen plenty of work behind the scenes to progress amalgamation of the South Australian Golf Course Superintendents Association and the Sports Turf Association of South Australia.

We can now announce that the merger has taken place and a new association – **Turf Management South Australia (TMSA)** – has been formed. This has been a long, slow process, with both associations wanting the same outcomes but with different views on how to get there. After many months of discussions and hoops to jump through, we have finally made it which is very pleasing.

TMSA has employed **Marie Cunningham** as executive officer to help with the merger and her appointment has been invaluable. Marie comes with a wealth of experience and has hit the ground running, taking control of the process and pointing us all in the right direction. Membership categories have been rejigged slightly to allow all in the SA turf industry to be involved, along with a new partnership proposal for trade companies. We are hoping to welcome our former sponsors back and look forward to making new partnerships. To celebrate the new association coming into being, we will be holding a formal launch of the association at Kooyonga Golf Club on 23 February 2023.

The South Australian Golf Industry Awards were held in late October, with a great night showcasing the best of the state's golf industry. This year's Excellence in Turf Management Award was won by **Mark Angel** from Kingston SE Golf Club. Mark moved to Kingston in the southeast of SA for a sea change in 1996, taking up the position of superintendent after having worked previously at Kooyonga Golf Club.

ON THE MOVE...

PATRICK CASEY: From superintendent Kalgoorlie GC, WA to superintendent Royal Perth GC, WA. He replaces Mat Soles who had to return to NSW for family reasons.

CHARLIE GIFFARD: From McMahons to superintendent Pacific Golf Club, Qld.

TIM HOSKINSON: From superintendent Cairns GC, Qld to Northern Queensland manager for Green Options.

JAMES MELVILLE: From superintendent Ashgrove GC, Qld to a role at Southbank Parklands, Qld.

DAMIEN MURRELL: From Newcastle City Council, NSW to superintendent Merewether GC, NSW.

MARC RAYMOND: From superintendent Waterford Valley GC, Vic to superintendent Spring Park GC, Vic.

The club has very limited financial resources and Mark oversees a small team of dedicated volunteers who continue to improve the golf course through their tireless efforts and Mark's turf management experience. Under Mark's guidance, in 2004 the club embarked on a redevelopment program which involved relocating all of the greens, removing cypress pines, developing seven new fairways, building new tee blocks and installing a new irrigation system.

Since that time, Mark has overseen the work of the volunteers to make remarkable improvements in the quality of the playing surfaces and presentation of the course. This year the club hosted the SA Senior Amateur Championship and the feedback from the players and organisers regarding the incredible quality of the course was phenomenal.

Also on the awards night, the Graduate of the Year Award was presented to **Declan Bayly** from Mt Osmond Golf Club. Declan was able to complete the theory component for his traineeship ahead of time through hard work and good time management. Declan represented SA in the national awards held back in June at the Melbourne conference.

NATHAN BENNETT
JOINT PRESIDENT, TMSA

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