

Turfgrass



VOLUME 22.1 JAN-FEB 2020

MANAGEMENT JOURNAL

A season like no other...

From devastating bushfires and prolonged drought-like conditions, to freak storms and floods, the past couple of months have truly tested the mettle of not only turf managers but all Australians. ATM looks back at a season that none of us will forget...

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Published by the Australian Sports
Turf Managers Association (ASTMA)

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Printed By

Southern Colour Pty Ltd



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**COVER STORY
A SEASON LIKE NO OTHER 6**

Where do you begin to describe the events of the past couple of months? After prolonged drought-like conditions, since last September bushfires ravaged huge tracts of NSW, Victoria and South Australia, creating one of the biggest natural disasters in the country's history. Golf clubs and sports grounds throughout the bushfire affected zones became staging grounds and evacuation points, while many members of the turf industry were personally affected as friends, family and their local communities were impacted. In this edition we look back at a season that none of us will forget.

*Cover: Thredbo Golf Club, NSW.
Photo: Euan Diver.*



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Lowlights and highlights

Talk about being worlds apart. I'm sitting in the stands at the MCG with my boy (who's now officially taller than me by the way – at just 13!) and his best mate watching the BBL derby between the Melbourne Stars and Melbourne Renegades when my phone goes off. It's Brent Hull, superintendent at Moruya Golf Club.

A few days earlier I had contacted Hull via Facebook to see how he and his crew were faring given the bushfire crisis that was enveloping the NSW South Coast. While I was sitting in the top tier of the Olympic Stand, Hull was sitting inside his horse transporter/truck that was parked up on the Moruya Showground, having a few days earlier evacuated his home at Bingie Point some 12km away. Hull and his wife Jean were among thousands of local residents from Moruya and the surrounding district who descended on the showground as the fire front descended.

We laughed about it at the time, but looking back now it seems preposterous. There I was at the MCG watching Maxwell and Stoinis tonk balls over cow corner, while the likes of ASTMA members such as Hull were facing catastrophic conditions and living out a waking nightmare. Puts things into perspective doesn't it...

In this edition we recount Hull's story and that of his South Coast counterpart and ASTMA Board member Dave Thomson who was also forced to evacuate his place at Bermagui. In doing so, he and his extended family had to drive through Cobargo which only a few days earlier had been razed to the ground, some of his close friends there losing everything.

While it has been a summer to forget on many fronts, there were also many highlights which we cover in this edition, none more so than the 2019 Presidents Cup. The famed Composite Course was at its very best last December and witnessed a slice of history as the US Team, captained by the GOAT, came from behind on Sunday to win by two points. The team that director of courses Richard Forsyth had around him that week was top notch and they more than deserved the plaudits that came their way.

From the Men's Australian Open (The Australian) and Australian PGA Championship (RACV Royal Pines), to the more recent tournaments such as the Vic Open (Thirteenth Beach), Women's Australian Open (Royal Adelaide) and Australian Ladies Classic (Bonville Golf Resort), tournament golf has never been better. And add to that the performance of our overseas professionals, six of whom have already collected major Tour titles in 2020.

And speaking of plaudits, Royal Adelaide was again in exemplary condition in mid-February for the Women's Australian Open. We will cover it in the next edition, but mention must be given to the fantastic photo that went out on Instagram in the hours after the tournament had concluded. American professional Christina Kim, one of the great characters of the LPGA Tour, was snapped with superintendent Nathan Bennett and crew inside the Royal Adelaide maintenance facility celebrating after a huge week. Although not winning – she finished tied for 10th – Kim made the effort to visit the crew and pass on her congratulations. Her Instagram post read...

"So many thanks are in order for this week, but none greater to the staff at @royaladelaidegc. Your tireless hours spent preparing your national championship to be one of the finest courses in the world did not go unnoticed by the Moo (Kim's boyfriend and caddie Duncan French) and me. We cannot thank you enough from the bottom of our hearts for the week's worth of 3am wake up calls, hours of careful tending and nurturing of the golf course and for the rollicking great after party that you all deserved!!! I hope you all get absolutely bladdered and keep being a source of inspiration for the rest of the world of work hard, work towards perfection, as well as party like there's no tomorrow!!! Thank you for letting the Moo and me crash your party! I'm sure the reason you guys had to get up at absurd hours every morning was the last thing you wanted to see at your celebration but thank you for being so gracious to little ol me!!!! You all are amazing!"

Now that's what you call gratitude! Enjoy the read...



Brett Robinson, Editor



Brutal summer a testing time for all sports turf managers

Summer in Australia. Without doubt, the last few months have been a challenge for most in the industry, with many parts of Australia dealing with severe and ongoing drought conditions, while other areas are faced with floods.

And of course, the bushfires in the almost all states, most significantly in the eastern states, which have been among some of the worst the country has seen. We have witnessed a number of golf clubs and sportsgrounds being used as relief centres, staging grounds and in some cases evacuation points for entire townships. Clubs and courses have been hit hard economically over what is traditionally their busy summer tourism period.

Recent weeks have seen some very welcome rain fall in parts of NSW, Queensland and Victoria, relieving some of the pressure on bushfires, aiding turf and raising dam levels, though a number of regions have seen this rainfall turn into flood events, with creeks and waterways overflowing. All of this shows just what incredible challenges turf managers face in this profession and how much resilience and support is needed in this industry.

On the subject of support, the **Australian Golf Industry Council (AGIC)** – the collaboration of all golf industry bodies including the ASTMA, Golf Australia, PGA of Australia, ALPG, GMA, Australian Sporting Goods Association, Society of Australian Golf Course Architects and Public Golf Facilities Australia, announced the 2020 Australian



Golf Bushfire Appeal Fund to raise funds for impacted areas and clubs.

The industry has pledged to hand over 50 per cent of the total raised to the Disaster Relief Recovery Fund being run by the Australian Red Cross. The remaining funds raised will be distributed to bushfire-related charities including wildlife funds and to any golf clubs impacted by the disaster. In addition, clubs and golf facilities throughout Australia are asked to dedicate their club competitions for one week from now until the end of February 2020.

IN THE SPOTLIGHT

December saw several highlights on the Australian sporting calendar and in this edition ATM editor Brett Robinson looks back at what was a busy schedule of major events. From a golf perspective, it kicked off in early December with **Phil Beal** and the team at The Australian turning out an outstanding course for the 2019 Emirates Australian Open

(see review on page 36). The following week **Richard Forsyth** and his team presented a phenomenal Royal Melbourne Composite Course for the Presidents Cup (see review starting page 16), with **Lincoln Coombes** and the RACV Royal Pines crew rounding off an amazing three weeks by delivering the perfect platform for the Australian PGA Championship (pictured). That continued into February with the Vic Open (Thirteenth Beach) and Women's Australian Open (Royal Adelaide).

Spread throughout we have had the BBL, international Tests and domestic cricket, A-League ramping up, as well as the commencement of the NRL and AFLW pre-seasons, Olympic qualifying matches in football and Super Rugby... the list goes on.

What should be taken from looking back over the last few months is that sport marches on and despite the extreme challenges, and often against incredible odds, sports turf managers in this country continue to produce outstanding surfaces for all levels of sport for the community.

In what were months of truly international events, all teams should be rightly proud of their efforts in turning out exceptional stadiums and courses, and showcasing not only the talents of the team, but also showcasing the talent and professionalism of Australian turf managers to the world.

CONFERENCE AND CERTIFICATION

In early February we opened up registration for the 2020 Asia Pacific Turfgrass Conference. This year's conference will again provide a



RACV Royal Pines hosted the Australian PGA Championship for the seventh consecutive year, one of a number of turf facilities to showcase the excellence of Australian sports turf management professionals over summer

huge variety of education through the various streams on offer. It is set to be an interesting and engaging programme featuring keynote addresses from **Dr Frank Rossi** (Cornell University), **Dr Nathan Walker** (professor of IPM and turfgrass pathology, Oklahoma State University) and **Dr Andy Owen** (international technical manager, turf and landscape at ICL).

Joining them will be a series of keynote presentations from the likes of **Jeremy Loeliger** (CEO, National Basketball League), **Brendan Allen** (general manager and former superintendent, The Hills Golf Club, NZ) and **Carla Armanet** (director sport and recreation, Centennial Parklands, NSW) among others.

The conference will be held at the Melbourne Convention and Exhibition Centre

from 22-25 June and **Early Bird registration is now available until Friday 20 March**. Early Bird prices represent a 30 per cent discount for Australian Sports Turf Managers Association members so I encourage all members to register early.

The conference is the premier event in which sports turf managers from across an array of disciplines, come together to network, share best practices and develop strategies for improving their facilities. We know that it can sometimes be difficult to obtain approval from management to attend these events, but to assist in that the ASTMA has compiled a Conference Justification Toolkit to help define and clearly communicate benefits of attending.

All information pertaining to the conference – registration, education programme, trade exhibition and accommodation – can be found under the 'Conference' tab on the ASTMA

website (www.agcsa.com.au).

And on the topic of education, in the coming months the ASTMA will launch a revamped Sports Turf Manager Industry Certification Program. This is currently being reviewed and tested by more than 25 members. As this feedback is received, the programme's structure and components will be updated. We expect to launch the revised programme focusing on continual professional education and development in late February.

In closing, the next few weeks will see the ASTMA team preparing for the Future Turf Managers Initiative, presented in conjunction with Gold Partner Jacobsen. This outstanding programme is now in its fifth year and we look forward to welcoming the 18 successful applicants to Melbourne from 15-17 March. You can read all about this year's participants in this edition (page 42). 🙌

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A season like **no other**

Where do you begin to describe the events of the past couple of months? After prolonged drought-like conditions, since last September bushfires have ravaged huge tracts of NSW, Victoria and South Australia, creating one of the biggest natural disasters in the country's history. Then, in a cruel bookend to it all, unprecedented storms lashed the eastern seaboard in February. ATM editor Brett Robinson looks back on a season that has tested the resilience and resolve of not only turf managers but all Australians.



ASTMA member Euan Diver took this incredible photo (which hasn't been altered or Photoshopped) of the third hole at Thredbo Golf Club around 6.30pm on Saturday, 4 January 2020. The fire front of the Green Valley/ Talmalmo Fire, which ended up burning through more than 208,000 hectares of national park, was six kilometres away at the time. Thankfully fire didn't impact the resort township, but 1500 people were evacuated over a couple of days and snowmaking machines employed to protect buildings and assets



Golf club dams and water storages were called upon to assist in firefighting efforts. Pictured is Perth's WA Golf Club where around 250,000 litres was siphoned to fight a bushfire two kilometres away

PHOTO: IDRIS EVANS

The irony of it all wasn't lost on Moruya Golf Club course superintendent Brent Hull. Sitting in his 22-foot-long horse transporter/truck parked up on the Moruya Showgrounds a few days into the New Year, a photo memory suddenly flashed up on his Facebook feed. It was of four years earlier, on 4 January 2016, when much of the course was under water thanks to nearly 300mm of rain. Looking at the ominous smoky orange-tinged sky above him at the time, he could only but give a wry smile and think, 'Gee, what we would do for that 300mm right now!'

Along with about 4000 other locals from Moruya and the surrounding districts, Hull had evacuated his home on New Year's Eve as bushfires bore down on the NSW South Coast. The previous day, fire authorities had warned those outside of Moruya that the fire threat from the massive Badja Forest Rd, Countegany Fire (which would end up burning through more than 350,000 hectares) was imminent and that they couldn't guarantee protection of those properties – their priority was the township of Moruya.

Hull lives on five acres near Bingie Point, about 12 kilometres as the crow flies south east of Moruya and about 5km north of Tuross Head. The property, which is also home to Hull's five prized show jumping and equestrian horses, backs on to 5km of bushland which leads all the way back to the A1 highway. With only one road in and out and with bushfires just the other side of the highway (about 6km away) being fanned by strong westerly winds, Hull made the agonising decision to leave.

Before doing so he grabbed a couple of crew and went back home. Together they knocked down a number of palm trees next to Hull's house and cleared out melaleuca to reduce any potential fuel load should it come under ember attack. Being on tank water, Hull chopped off all the downpipes feeding into the tank, so as not to contaminate it, then blocked up the gutters and filled them with water.

As for the horses, Hull only had room for three in his truck which meant two had to stay. To prepare them, their rugs and steel shoes were removed and the paddock gates opened in case they needed to flee.



Bermagui CC Dave Thomson posted this photo on Facebook with the comment, "Bit hard to breathe."

Together with wife Jean, the three horses – Lucy, Amber and Dusty – as well as their eldest daughter, her husband and kids, they packed what they could into the truck and headed for the Moruya Showground. The showground, which is located right in the middle of Hull's golf course, had been turned into the primary evacuation point for the district. Reaching capacity quickly, evacuees spilled over onto the golf course, with the 13th fairway ending up housing at least another 400-500.

For the next four days the Hulls remained there as all around them the sky turned blood orange and water bombing helicopters and planes droned constantly overhead. Despite losing power for five days, the golf club opened up its doors, assisting evacuees and feeding the hard-working folk of the NSW Rural Fire Service where it could.

When power did come back on, Hull fired up the golf course's irrigation system to wet down the showground and golf course surrounds in case of ember attack. Seeing the water also helped to make everyone there feel a little more at ease and gave kids a welcome distraction from the hell that was going on around them. Hull jokes he put so much water out – about 3.2 megalitres – that he could have grown rice on the fairways!

After four days camped at the showground, Hull decided to return home. Despite being covered in an inch of back soot, ash and burnt leaves, the house was fully intact and the animals were safe. A few weeks later, before and after the Australia Day long weekend, two more calls were made for people to evacuate. This time Hull decided to

stay put, albeit ready to leave in an instant if needed. Embers did spark a fire less than a kilometre away on his side of the highway, but it was brought under control quickly. Some houses on the western fringe of the Moruya township weren't so lucky however.

"Thank god for southerly wind changes," says Hull. "On those occasions where he were under threat, we had a southeasterly wind change which stood the fires up against each other. I'd hate to think what would have happened if we didn't get those changes. Another hour of westerly winds and it could have been a lot different.

"I've never seen conditions like that in all my 59 years. It was a pretty sketchy time and I don't want to have to go through anything like that again. And we were lucky. To speak to people who have lost everything, they will be emotionally scarred forever.

"The fires have impacted a lot of people and business and it could not have happened at a worse time for the golf club. I reckon we lost about \$7K a day in green fees over the Christmas/New Year period and then to have the fires flare up again before the long weekend too. This is our busiest time of year and sets us up for the year. All clubs along the coast have been affected and it will take a while for finances to get back on track, but we are remaining upbeat."

Just to rub salt into the wounds and in another cruel twist of irony, as this edition was going to print Hull was finding himself having to clean up the course after extensive flooding. With the eastern seaboard lashed by storms in early February, Moruya Golf Club copped 220mm over a three-day period. While the welcome rain effectively extinguished the remaining fires, it caused widespread inundation of the golf course and showground.

"It has been unbelievable this season – just one thing after another," says Hull. "Now we can't even keep up with cutting the grass – it's going ballistic."



PHOTO: JARED ARMITAGE

Intense heat and drought hit regional courses, like Emerald Golf Club in Queensland, hard

MIDNIGHT DASH

An hour south of Moruya at Bermagui Country Club, long-serving superintendent and ASTMA Board member David Thomson had a start to 2020 he would rather forget. Like Hull, he and his partner Suzie, together with their extended family, were forced to flee south to Bega where an evacuation centre had been set up at the local showground as well.

It had been only a matter of time before the call came to evacuate. A few days earlier the township of Cobargo, 15 minutes inland from Bermagui, was razed to the ground, making headlines around the country. A number of Thomson's close friends lost everything and he heard firsthand their horror stories of the sheer ferocity and speed at which the firestorm moved. One of those couples ended up staying with them, but as the fires kept progressing towards Bermagui, it was soon their turn to evacuate as well.

By this time Bermagui Country Club had flung its doors open to those who had come from Cobargo and other fire-affected areas. Suzie was working at the club, helping out those people in need where she could, and during a conversation with an SES officer was told that Bermagui was going to be evacuated the following day. She was told that if she could go now to do so to avoid the rush. So just after midnight, six car loads containing Thomson, Suzie, the extended family and four dogs, left Bermagui. Stopping by the golf club maintenance facility, they all fuelled up and made the dash to Bega.

"It was a very strange New Years," reflects Thomson. "We had really good friends of ours in Cobargo who lost everything. They were lucky to get out alive and turned up on our doorstep in an emotional mess and stayed with us, but the next night they were having to evacuate with us to Bega! We left about 1am and drove back through Cobargo with fire still burning on the sides of the road. It was pretty eerie driving in the dark and seeing the fire burning on Mumbulla Mountain. The vision was pretty low due to the smoke and with ash landing everywhere.

"It's normally about a 35-40-minute drive to Bega, but it felt like two hours driving at that time of night. We got to the showground and it was 50 per cent full. By the time we woke up in the morning it was at capacity. There must have been about 4000 people there."

After spending a couple of days camping there, Thomson was desperate to get back to Bermagui to check on their home and the golf course. Despite initially being turned around at a road block, he eventually made it through.

"The greens had gone nine days without water because we lost power and five days without any mowing," explains Thomson. "I tried to get back to the course on Sunday but got turned back the first time. I went back later around 7pm and they must have been having a dinner break as no one was manning it and I

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PHOTO: CAMERON HALL

Air quality issues were widespread across many townships and cities, making working conditions hazardous. Pictured is Kew Golf Club in Melbourne

was able to sneak through. When I got back to Bermagui it was like a ghost town.

"I got onto the course the next morning and lifted all the cutting heights and just started cutting – there was grass everywhere! The course was awesome considering we hadn't been on it for a couple of days. I water roughly every four days and was planning to water on New Year's Day, but then we lost power so they ended up going without for nine days.

"The colour of the grass was unbelievable. It was like everything had been fertilised – the turf was bright green from all the carbon and ash that had landed on it. It was like I had sprayed it with a colourant! Thankfully we've got a good root system in the greens, so they were strong and got through well. I was still amazed that we didn't lose areas though."

Like Moruya and many other golf and sporting clubs along the NSW South Coast, Bermagui Country Club played a key role during and after the fires, acting as a safe haven and shelter for those fleeing the fire grounds. Along with the local surf lifesaving club, which was the official evacuation point for the area, the country club also became the makeshift headquarters for the NSW Rural Fire Service as they coordinated firefighting efforts.

"The club was amazing," says Thomson. "When the fires hit the surrounding area, we had people coming in from everywhere. Aside from the local supermarket, we were the only business to have a generator, so we had power. Our manager Robert Buezeville closed the club in terms of trading and opened it up to everyone who needed to use it. His wife ran the kitchen and they were pumping out hundreds of meals a day to feed everyone.

"The surf lifesaving club ended up being the registered evacuation centre, so a lot of people started filing in there, but many stayed on at the country club. People were sleeping on the restaurant floor and in between the pokies machines."

After a week of being closed, the club reopened for normal trading but Thomson says the place was dead. All the tourists had gone, as they had been told to leave, while a lot of Bermagui's regular golfers and bowlers had also departed. Bermagui is a big retiree township and as many of them are 'grey nomads' and have caravans or trailers, rather than staying there they upped and went for a holiday elsewhere.

"The club has certainly taken a hit financially, but we will hopefully get some government rebates and if we have a good Easter trading period that will get us back on track," says Thomson. "All clubs up and down the coast, and small businesses, have been hit hard. Hopefully now that the fires are out, thanks to all this rain, people from Canberra and Sydney can start to come back down this way to show their support and spend some money to help get these businesses back up and running.

"The community has been shaken up big time, but the resilience of the people and the help that everyone is giving each other has been amazing. It has brought the best out of people. Every weekend people are volunteering to help rebuild – it has been awesome to see. The whole district was already a tight community before the fires, but I think it will be even closer now after what it has been through."

STAYING PUT

While Hull and Thomson evacuated, for fellow ASTMA member Euan Diver it was a very nervous wait as he, along with key staff and RFS crews, rode out the fire threat at Thredbo Resort in Kosciuszko National Park.

As the incredible photo on the cover of this edition and on the opening pages of this article graphically illustrate, the sky above Thredbo Golf Course turned apocalyptic. Those photos, taken by Diver, were snapped at 6.30pm on Saturday 4 January with the front of the huge Green Valley/Talmalmo fire about 6km away at the time. That fire would end up burning through more than 208,000ha of national park.

"That Saturday was pretty eerie," admits Diver, who is the environmental services manager for Kosciuszko Thredbo P/L which oversees the resort, including the township's nine-hole golf course. "We spent a fair bit of time and resources preparing for it, including evacuating the entire resort on the Friday, leaving only a core group of staff and NSW fire and rescue personnel. We had about 1500 people in town at the time, but as it was an organised and staged evacuation over a couple of days, it pretty much ran itself.

"While we ended up with burnt leaves and bark falling in the resort from early evening into the night on the Saturday, they were originating from fires that were a bit further away from Thredbo, a result of the formation of pyrocumulus clouds over those fires, so they weren't embers when they arrived in Thredbo.

"We gradually opened the resort over the following week, starting with residents, day staff, contractors and then finally guests a week later. There was a bit of clean up and



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Smoke, storms and shootings... but the show still goes on

Brad van Dam has been in the curating business long enough to know to expect the unexpected. But even he can't recall a season like the one he and his arena crew at Manuka Oval in Canberra have just experienced.

The highlight reel began back on 9 August 2019. Entertaining the Round 21 clash between the GWS Giants and Hawthorn, towards the end of the first quarter it started snowing, the first time ever an AFL Premiership match has been played in such conditions. Fast forward to the cricket season and things became even more bizarre.

On the day of the scheduled T20 International between Australia and Pakistan (22 November), Manuka Oval was forced into lockdown after a woman was shot nearby while sitting in her car. The match went ahead but security was heightened as a result.

Closer to Christmas and with bushfires raging across NSW, the nation's capital was constantly blanketed in thick smoke. On multiple days, Canberra's air quality was rated as the worst in the world. The smoke wreaked havoc, with grade cricket fixtures cancelled and the abandonment of the BBL clash between the Sydney Thunder and Adelaide Strikers on 22 December.

In addition to the choking smoke, massive winds whipped up dust storms before Christmas, while on 4 January 2020, at the height of the bushfire crisis on the NSW South Coast, Canberra recorded its hottest day on record – 44 degrees – surpassing the previous high mark of 42.2 degrees set back in 1968.

And then, just to ensure that Canberra had experienced the full gamut, it was smashed by a violent hailstorm just after lunchtime on 20 January, leaving Manuka Oval completely blanketed in hailstones that ranged in size from peas to snooker balls.

The storm only lasted 20 minutes but it was one of the most intense that van Dam has witnessed in his time at the venue. The wicket block and outfield were covered in hail up to 75mm deep with indentations everywhere up to a depth of 5cm.

"Our first concern was the wicket cover," explains van Dam. "It was extremely hard to see if there was any damage, so we had to wait about an hour until the hail was partially gone. We were then able to see a significant number of holes in the cover, so we swept it and removed it straight away. We found quite a few wet spots but they weren't too bad.

"We had WNCL cricket over the next three days and at that stage the first match was in limbo. We waited until all the hail had completely melted (approx. 2.5 hours) and we rolled it with a tractor-drawn roller then mowed



PHOTO: BRAD VAN DAM

It was winter in the middle of summer at Manuka Oval after a destructive hail storm smashed Canberra

it in the other direction. We decided that the surface was safe enough to be played on which gave us enough time to put together a plan to fix the surface."

In addition to the surface and wicket block, some 500 grandstand seats were damaged, trees stripped of foliage – four 15m³ skips were filled with debris – while a few cars and venue signage were also affected. And to add insult to injury, a few days later Canberra was buffeted by extremely strong winds, with gusts in excess of 85kph. Those winds caused a large tree at the scoreboard end of the ground to come crashing down, taking out all the venue's AFL goalposts which were being housed upright next to it.

Van Dam's counterpart at the Sydney Cricket Ground, Adam Lewis, also had his work cut out thanks to the weather. Hosting the BBL final between the Sydney Sixers and Melbourne Stars on 8 February, it coincided with huge storms which lashed the east coast, with many pundits predicting a washout.

However, despite copping 180mm of rain leading up to the final, a fortuitous break in the weather, plus some good old curator nous, meant a rain-reduced, 12-over-a-side final was able to be contested. Lewis and his SCG team were hailed as heroes in getting the wicket up for the final, with cricket.com.au journalist Louis Cameron penning an article detailing their behind-the-scenes efforts. Under the headline "Miracle man! How the SCG curator saved the BBL final", Lewis told Cameron they had prepared the wicket earlier than normal due to the weather and vertidraind the outfield to assist getting water through the profile quicker.



Days after the hailstorm hit Manuka Oval, high winds brought down a tree, taking out the venue's AFL goal posts stationed outside the ground



PHOTO: SCG

The Sydney Cricket Ground crew performed a miracle to get the wicket ready for a rain-affected BBL final

pack up to do as we utilised our snowmaking systems to provide protection to key assets on the mountain. The golf course, which is located at the western end and provides a fire break for the village, was prepared for quick access by the emergency services as well.

“We were extremely grateful that we were not impacted by fire and our thoughts remain with those that were actually impacted.”

RECORDS BROKEN

As if there was any doubt, the fires which wreaked havoc were as a result of what was Australia’s warmest and driest year on record, a fact that the Bureau of Meteorology confirmed in its Annual Climate Statement released on 9 January 2020. Australia’s area-averaged mean temperature for 2019 was 1.52°C above the 1961–1990 average, making it the warmest year on record. Mean maximum temperatures were the warmest on record at 2.09°C above average. 2019 was also the driest year on record for Australia at 277.6mm, well below the previous record in 1902 (previous lowest was 314.5mm).

The second half of the year was particularly dry across most of the southern half of Australia, and followed several years of below average rainfall over parts of Queensland and New South Wales. Warm and windy conditions during spring to early summer led to repeated periods of severe fire weather, which started in September and continued through with devastating consequences until the end of the year.

NSWGCSA life member and former Castle Hill Country Club superintendent Martyn Black can certainly attest to it being dry. For the past 31 years he has kept meticulous rainfall records for the north west of Sydney and the past summer was, well, in his words “scary”.

“We are in uncharted territory,” says Black. “Only once in the 31 years that I’ve been keeping records did we have a full month when not a full millimetre of rain fell on Castle Hill. That was a November over 10 years ago! On 7 January 2020, I tipped 2.5mm out of my rain gauge! That was 42 days since the previous drop of 3mm in late November.”

Black wasn’t the only turf manager to raise the eyebrows over the recent conditions, in what were challenging times for all. ATM canvassed a number of supers around the country and what follows is a snapshot of some of the conditions they had to face.

GRAFTON GC, NSW

Famine to feast. That’s how long-serving Grafton District Golf Club superintendent John Nelson describes the conditions at the northern NSW course over the past few months. Grafton’s rainfall tally for 2019 was just 380mm and by December the club was



PHOTO: STEVE LEWIS

Royal Hobart Golf Club totalled just 345mm for 2019 putting the cool-season turf under considerable stress. Daily rainfall totals only reached double figures on four occasions for the year

spending \$2000 a week to keep greens and tees alive. Fairways were that parched that members were forced to play off synthetic turf mats in order to protect the course.

How all that changed in the first two months of 2020. A total of 317mm fell in January, while a further 396mm has fallen in February (to the 18th), taking the year-to-date tally to more than 700mm. That is nearly twice as much as what the course received in 2019, and it’s just seven weeks into the new year.

“It has gone from famine to feast,” says Nelson. “The January rains all but filled our dams and turned the course from brown to green in a matter of days. All dams are now overflowing and we have really good ground moisture. We have been able to aerate our poorest fairways and fertilise them all. You can hear the grass growing!”



PHOTO: BLAINE KNOX

Water storages at or near empty were common for many clubs who rely on stormwater or run off

MT WARREN PARK GC, QLD

Blaine Knox has certainly had a testing introduction to his career as a course superintendent. Taking the reins at Mt Warren Park Golf Club last July, the course, which relies solely on catchment for irrigation, recorded 172.5mm of rain from June to December as opposed to its historical average of 410mm for that six-month period.

The course got extremely close to running out of water before some welcome respite came in January thanks to 120mm. Knox turned off all fairway irrigation in early November as well as tees a few weeks later to conserve every last drop for the greens.

“The committee and entire membership was very understanding and completely agreed with us making the tough call to prioritise the greens,” says Knox. “Communication was definitely key, reassuring them that everything else wouldn’t take long to recover once we had water again.”

ROYAL HOBART GC, TAS

You rarely associate Tasmania with heat and drought, but as ASTMA Board member Steve Lewis will tell you, 2019 was one for the books. Rainfall for the year was well below average with a total of 345mm compared to the long-term average of 488mm. Remarkably, daily totals only reached double figures on four occasions for the entire year.

Spring 2019, especially November, was extremely windy. Northwesterly winds dominated the month with gusts getting up to 91kph. These unusually windy conditions dried the golf course out very quickly and Lewis was into full irrigation a lot earlier than normal due to high evaporation rates. Rainfall in December was below average (15.4mm) and on the penultimate day of 2019 Hobart tipped the mercury at 40.8.

“The cool season fairways have suffered fairly badly with limited irrigation water,” reports Lewis. “We had to turn off rough sprinklers and tee to green carries to conserve recycled water through until March. We have applied a lot more wetting agents to the tees, greens and surrounds this summer which has helped keep the priority areas in pretty good order.”

EMERALD GC, QLD

Jared Armitage has welcomed some much-needed rain in recent weeks, but the end of 2019 was certainly a trying one for the regional Queensland course. Emerald received just 288.5mm of rain for the year, compared to the 462mm it recorded in 2018. December was particularly brutal. The average maximum temperature for that month was 38.5°C and the minimum averaged 23°C. The course copped 32 days in a row where the maximum temperature was above 36°C.

Due to the Fairbairn Dam being so low, the club had its water allocation out of the Nogoa River severely cut. Emerald turned off its fairway irrigation back on 1 September and in

January also started to reduce the amount of water going on tees. As a result, large cracks opened up in some fairways.

KEW GC, VIC

Cameron Hall has had a pretty good summer to date and after Kew’s driest December on record (just 6.5mm) some good January rains have aided in the management of the Melbourne course.

Kew staff have been carrying out injection of wetting agent into the profile using a hand injection gun which has proven great for high traffic areas. This year Hall is also boom spraying wetting agent onto fairways whereas in previous years he used the injection system. This has ensured the product is getting into the desired areas.

Although not impacted by bushfires, smoke haze across Melbourne meant air quality was very poor. Hall had to adjust staff jobs and limit the amount of time staff spent outside, instructing them to wear face masks if they did when air quality was at hazardous levels.

KDV SPORT, QLD

KDV Sport, located adjacent to Metricon Stadium on the Gold Coast and which incorporates the old Carrara Gardens golf course, suffered severe drought like conditions for the last six months of 2019. Sports turf manager Andrew Glen reports they ran out of water and for a period of almost three months and were unable to irrigate tees, fairways and rough, while barely keeping greens alive.

Despite these tough conditions, the course managed very well with Glen putting it down to a 100 per cent organic programme that he implemented more than two years ago.

“We are now into our third year of this programme and we have found that our course has become more drought tolerant and our watering requirements have become less,” says Glen. “With this programme I have re-established the natural biology back into the soil. It has taken time to develop the programme and I am continually improving on it, but as of now the results are very impressive both with the condition of the course and the cost savings.”

From one extreme to the other

Luke Partridge knows all about extremes. The present-day Manly Golf Club course superintendent has plied his trade in China and the Middle East and therefore has had plenty of experience battling the elements. But since arriving at Manly in mid-2017, he hasn’t had his skills tested quite like they have over the past summer.

After experiencing above average rainfall in September 2019, the dry period at Manly began in October when it recorded 58mm for the month, 23mm below the monthly average. November saw a cumulative total of 31mm, 50mm below average, while in December not a single drop of rain was recorded in a month where the average rainfall is 85.4mm. Course renovations at the end of November were scaled back from heavy scarifying and coring fairways to light grooming and solid tining to accommodate a limited water supply as the forecast dry conditions loomed.

Manly was particularly affected by Sydney’s Level 2 water restrictions. With the capability to harvest only six megalitres, it is heavily reliant on town water, an issue the club is working hard behind the scenes to resolve. On 8 December Manly’s dam ran dry, meaning irrigation was limited to tees and greens automatically with town water, while, in accordance with its Sydney Water exemption, fairways received only hand water until 17 January. The course received 60mm



PHOTOS: LUKE PARTRIDGE

The Manly Golf Club dam ran dry in December, but come February the course was submerged and trees were downed when Sydney was smashed by storms

of rain on the weekend of 18 January which replenished the dam and built some much-needed moisture into the soil profile.

A full-time team of four staff were dedicated solely to the hand-watering of fairways for that 40-day period. This put pressure on resources and limited the ability to undertake other projects and scheduled maintenance on the course. Though the team did a great job of hand-watering over 12 hectares of turf, the demand was ultimately too high and as a result some turf loss was observed in isolated areas.

Partridge implemented a programme of topdressing, solid tine aeration and fertilising/applying wetting agents to generate recovery on the worst affected fairways. The objective being to ensure a dense turf canopy was restored before scheduled applications of pre-emergent in February.

Then, of course, came the east coast storms of mid-February. While certainly not recording the biggest rainfall tally of the Sydney-based courses, Manly did cop nearly 400mm over a 96-hour period which, combined with a king tide, saw large parts of the course fully submerged. The course was closed for four days as the clean-up ensued, which included the removal of a large fig tree on the 12th which had been uprooted by the strong winds.

Partridge says that throughout all these extreme conditions, the board, greens committee and membership at Manly Golf Club have been extremely supportive. Regular communication through newsletter updates, social media posts and videos have played an integral role in building a level of understanding with all of stakeholders through this challenging period.

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Beyond a dream

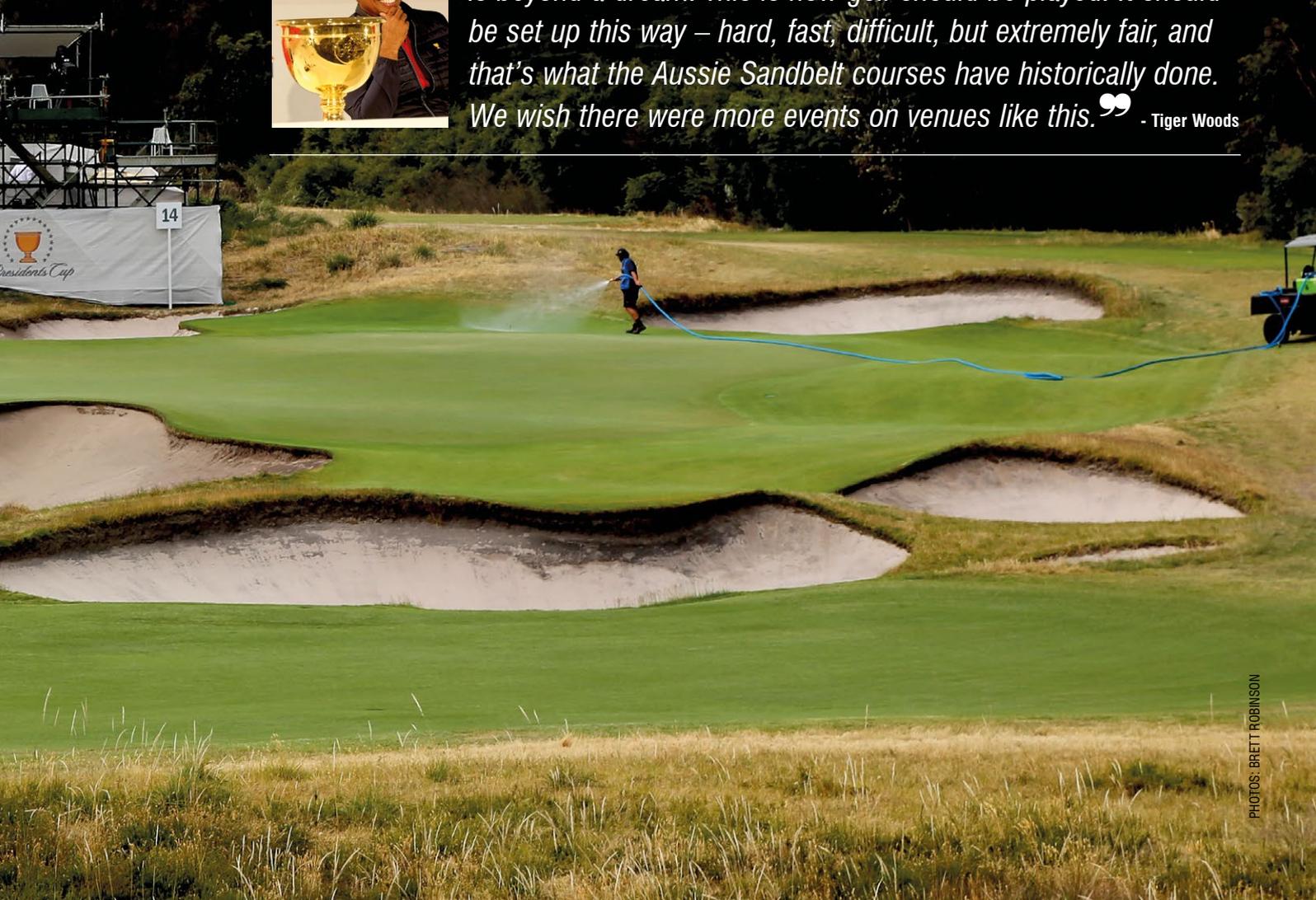
Royal Melbourne Golf Club again proved why it is one of the best tournament venues in world golf when it hosted the Presidents Cup for a third time last December. ATM editor Brett Robinson looks back at a special week for director of courses Richard Forsyth and his tournament crew, one in which victorious US Team captain Tiger Woods gave the club and the Melbourne Sandbelt the ultimate of accolades.



Royal Melbourne again showed its tournament calibre during the 2019 Presidents Cup, with its famed Suttons Mix greens complexes and fescue surrounds something to behold. Pictured is Composite 14 (16 East)



“I think what Royal Melbourne has displayed this entire week is beyond a dream. This is how golf should be played. It should be set up this way – hard, fast, difficult, but extremely fair, and that’s what the Aussie Sandbelt courses have historically done. We wish there were more events on venues like this.” - Tiger Woods





The Presidents Cup tournament crew totalled 90, with 45 volunteers slotting in seamlessly alongside the 45-strong Royal Melbourne crew

When the GOAT speaks, you listen. Following the announcement of Sunday's singles match-ups late on Saturday of the 2019 Presidents Cup last December, Tiger Woods clinically answers questions from the media through covering the tournament. Most are interested in how the US Team is going to bridge a two-match deficit heading into the 12 singles encounters and the strategy behind the various match-ups that have been named.

As the press conference draws to a close, one journalist changes tack and with the very last question enquires of Woods, "You've often spoken of your admiration for Royal Melbourne as a golf course. Has it delivered as a test so far this week?" His response, considered and to the point as always, would reverberate throughout the world of golf and especially the office of one particular golf course superintendent.

"It's a dream to be able to play (Royal Melbourne)," Woods began. "It's how a golf course should be set up. It should be set up this way – hard, fast, difficult, but extremely fair, and that's what the Aussie Sandbelt golf courses have historically done.

"I think what Royal Melbourne has displayed this entire week is beyond a dream. This is how I think golf should be played. You don't have to have a par three 240 yards for it to be difficult. That 5th hole (7 West) is all you want in a par three. The guys from our side and their side have thoroughly enjoyed the

course set up and how it has played. We wish there were more events on venues like this."

Director of courses Richard Forsyth was sitting alone in his office when the video clip of that press conference dropped into his email inbox later that evening. The compound was quiet, the tournament crew having long since dispersed after completing their afternoon preparations. Forsyth indulged for a few minutes, watching the clip a couple of times to take it all in. Each time he heard Tiger's words, there was an air of modest contentment.

Not surprisingly, when he addressed the crew for the final time the following morning, that clip was front and centre, highlighting to his staff and tournament volunteers – all 90 of them – what they had managed to deliver that week. Enough said really. It was the icing on

the cake to a phenomenal week – one of the biggest and best Forsyth has had in a four-decade career – and encapsulated perfectly why Royal Melbourne's Composite Course is and always will be one of the great tournament venues in world golf.

"To get that feedback from perhaps the greatest golfer of all time summed up a pretty successful week," reflects Forsyth. "Overall, I was delighted with the way everything went and the way the whole crew performed during the week. The accolades the course received were great for the staff, especially those comments from Tiger. You don't do it for those reasons, but it was nice that what we do and the way we manage the turf here got that recognition from someone like him. It's an endorsement I suppose of what we do here.



"This is as about as much fun as you can have as a superintendent. Hand-watering a tournament prepped green, that you are happy with, it doesn't get much better." – Richard Forsyth

“We work hard on the greens to get that bounce and firmness. It’s not easy and a lot of extra effort goes into trying to achieve that – hand-watering, staff crawling around on greens spot-spraying *Poa* – so to have that effort acknowledged in that way, and in front of a worldwide audience, was satisfying. A lot of people don’t get what we do here, but he (Tiger) does.”

ALL ABOUT THE GREENS... AND THE SURROUNDS

Royal Melbourne again showed its tournament calibre and its famed Suttons Mix bentgrass greens and fine fescue surrounds simply shone during the Presidents Cup. In an age where technology is rendering many of the classic layouts impotent, the firm, bouncy and fast short-cut turf produced by Forsyth and his crew had the game’s best deliberating over every shot. It was fascinating to watch as they navigated their way around the course and the subtle nuances required to get the ball into the right position.

Not surprisingly, 15-time Major winner Woods was among the stars of the week, winning all his three matches, including a Sunday singles 3&2 result over Abraham Ancer to spark the US Team’s history-making come-from-behind victory. The US had entered the

final day two points adrift of the Internationals, but after securing eight points in the singles they triumphed by two, 16-14.

From a weather perspective, Royal Melbourne was absolutely blessed for the tournament and it enabled the crew to really

hose. Forsyth is unashamedly old school in that respect and on the eve of the tournament he was out hand-watering a number of greens, getting a feel for how they were placed.

“Hand-watering a tournament prepped green, that you are happy with, is about

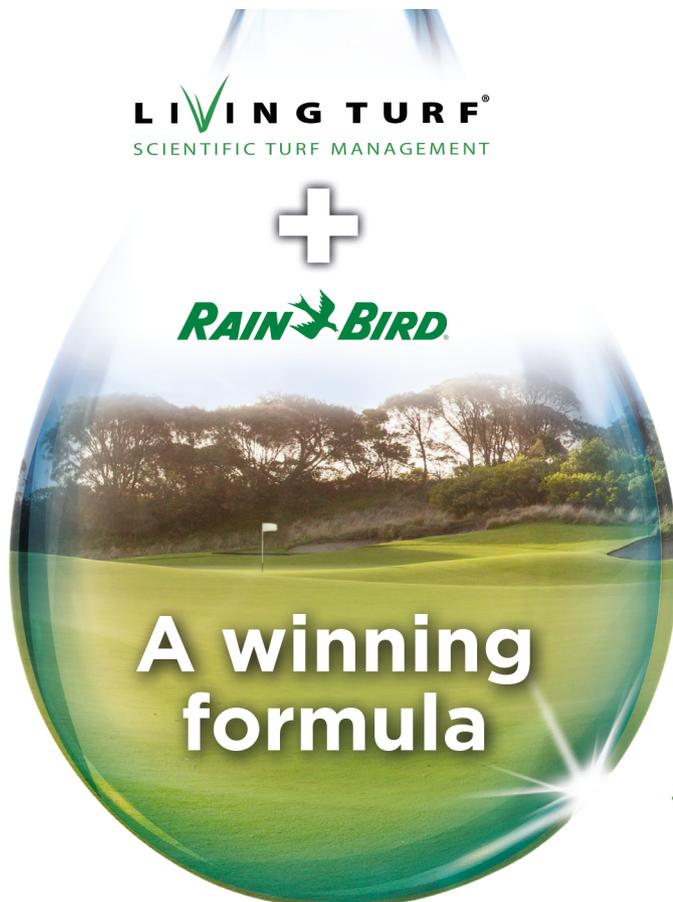
“It’s nice that what we do and the way we manage the turf here gets that feedback from someone like Tiger. A lot of people don’t get it, but he does. It’s an endorsement of what we do and what we are trying to achieve.” - Richard Forsyth

work the greens and surrounds to the nth degree. As Forsyth admits, if you could order 20 degrees or below for the entire week you would, and that’s just what they got. It meant they could dry the greens right down without running too precariously close to the edge, but on the flipside it also meant the players weren’t subjected to the changing nature of the course when there are differing conditions, such as a hot, blustery northerly.

Despite being a man in demand for much of the tournament week, acting as the primary conduit between his crew and the PGA Rules and Agronomy teams, Forsyth always made sure he found the time to be on the end of a

as much fun as you can have as a superintendent,” states Forsyth, who is now in his tenth year as Royal Melbourne custodian. “It’s important for me to feel how the greens are going because it’s a very fine line we have them on. You can’t make decisions if you’re not out there amongst it.

“The way the course played was very pleasing. We had some even firmness and bounce to the turf and the fairways were tight. I was very happy with how the greens ended up. It’s all about how much moisture you have in them. If it was hotter we wouldn’t have been able to have them as dry as we did, so the weather helped us out in that respect.



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While the greens were the centre of attention, Royal Melbourne crew member Corey Watts' superb mullet garnered plenty of social media attention

"Getting our water management on both the greens and the fescue approaches and getting it to a fine level of detail is important to get that even bounce. You can get firmness, but if you don't get the moisture even then you are going to get some parts of the green and approach that are going to react differently to the rest of it. At this level that's not what you want; you want to be as even as you can so the players have confidence about where they land the ball and how it's going to react.

"We were a lot better with our fescue surfaces than past tournaments. I'm not sure you could ever get them to the same level as the greens due to the grass type and organic matter, but we continue to learn over time what



Royal Melbourne's bunkers were boarded rather than raked and faces broomed. Peninsula-Kingswood volunteer Jeremy Clarke shows how it's done

we can do in that area and so from that point of view I was a lot happier."

In addition to firmness and bounce, smoothness, not speed, was also a key parameter for Forsyth during the week. To that end, he made the decision in the weeks leading up to the tournament to drop the height of cut from the club's usual 2.2mm down to 1.8mm. It was by no means a spur-of-the-moment decision, but one that was trialled for a number of weeks first. (See more on greens mower set up, page 26).

"Part of the inspiration for the 1.8mm cutting height was to get the greens as smooth as we could," explains Forsyth. "The Suttons Mix was a bit stalky and a bit open and I was a



Royal Melbourne's West course foreman Hayden Westwood checks the firmness and bounce of the fescue approach on Composite 18 (2 West)

little concerned that they (the PGA Tour) would pull the rolling out of the morning programme, which they did. So the idea of that cutting height was to keep the smoothness and speed without having to roll.

"Even though we were cutting at 1.8mm, we run the greens mowers with a split solid front roller compared to a Wiehle (grooved) roller, so it was probably more the equivalent of 2mm. 1.8mm sounds low, but we saw the turf getting better and better with a back-track cut at that height. The turf wasn't under stress due to heat, so we went with it after trialling it on the short game facility. Together with an afternoon roll, the greens played really well."

A TEAM EFFORT

Posted on virtually every wall inside Royal Melbourne's \$5 million maintenance facility during Presidents Cup week was a single laminated A4 sheet of paper. It was in the lunch room, offices, workshop, the locker rooms, even on the doors leading into the toilets. Titled 'Presidents Cup 2019 Group Goals', it contained a list of goals for the crew to embrace and adhere to that week.

Heading the list was 'ownership' – own the job/task you are given, put your name on it and ensure accuracy. Thereafter followed 'communication' – issue quality instructions, confirm that you have the correct instructions and tune in on the radio. There were eight

Joe Tormey's calves get a good workout cutting the fescue approach on Composite 4 (6 West). The drum on the Flex 21 mower is covered in rubber to provide extra traction on the steep slopes



categories in total listed with the last one simply titled 'Fun' – derive satisfaction from your job, enjoy the experience and celebrate a successful tournament.

Suffice to say, with the product they ultimately delivered, all those group goals were handsomely met. Indeed, Forsyth could not have been more delighted with the way his crew – all 45 of them – gelled so seamlessly with the 45 volunteers drawn from all over Australia and around the world. (See more on the volunteers, page 26).

To come together and gel so quickly takes something special and while Forsyth in many ways was central to that, in his eyes it was the efforts of his senior crew who, true to the aforementioned goals, took ownership in a big way. Each member of Forsyth's inner sanctum had their own designated area, which freed him up to deal with the tournament officials and concentrate on the bigger picture.

East course superintendent Craig Anthony was in charge of the greens team, running with a crew of 10 walk-mowing greens each morning and an equal number assisting with moving the turning boards and spotting lines. West course foreman Hayden Westwood had the responsibility of leading the fescue surrounds team, while his East course counterpart Geraldine O'Callaghan led a huge bunker crew which boarded bases and broomed faces of nearly 100 Sandbelt-sized hazards daily.

Sandringham foreman Darcy Jones was in charge of tees and Sandringham construction superintendent Nic Staff led the fairway team, which comprised three crews of three headed by Royal Melbourne staff Thibault Dupas,



Former AGCSA Graduate of the Year winner Joel Manson (left) and Jack Lavery were one of two teams changing holes during the Presidents Cup



Simon Harvey and Mark Sharrock. Incidentally, it was a big few weeks for Staff. Two weeks after the Presidents Cup he scored his first hole in one, on the Sandringham course, and then shortly after New Year became a dad for the first time!

And then there was West course superintendent Paul Thomas. One of the most experienced members of Forsyth's crew, Thomas had perhaps the biggest and most difficult job of all. With a tournament and infrastructure build nearly 40 per cent bigger than the 2011 Presidents Cup, Thomas oversaw every grandstand, TV tower and corporate marquee construction and dealt with the army of personnel involved.

"As I said to the senior crew before we went into the main meeting on Sunday morning, I could not be prouder of all their work during the tournament week and in the lead-up," says Forsyth. "They were the go-to people for their areas and they killed it.

"The whole thing was a team effort and we talked about that at the very start. You have to liaise and work and combine with so many



Thibault Dupas, leading one of three 3-man fairway crews, checks his lines on Composite 9



The famous 6 West, playing as Composite 4 for the Presidents Cup, was a drawcard for the tens of thousands of spectators that poured through the gates across the week



Jacob Martin (above) is all concentration cutting the green on Composite 11 (1 East), while Sam Holmes (right) rolls the fescue approach on Composite 18 (2 West)

people to make an event like this work. We've got our own team, but on a broader level there are so many other people that you come into contact with in the set up and managing the relationships you have with them. Paul doing all that coordination with the infrastructure build was outstanding and freed up so much of my time.

"But what was most pleasing was the way the volunteers all turned up at 6am the Thursday before and instantly gelled with our staff. You looked around the staff room on that final morning and you'd swear they had been a team for a long time. That was really pleasing to see and also the way they all enjoyed and embraced the whole experience."

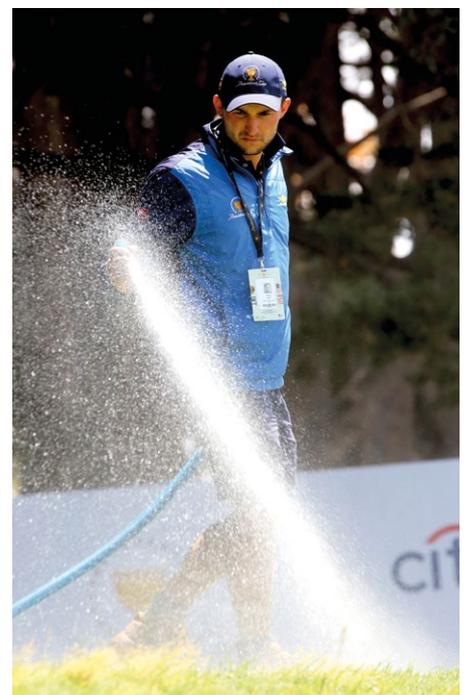
FULLY INVESTED

Having carried an air of calmness and control for much of the week, that final address to the 90-strong crew almost got the better of Forsyth. After sharing some highlights from the day before, including that clip of Woods, Forsyth went around the group and thanked everyone for their efforts. By the end you could tell he was clearly emotional and it gave an unequivocal indication of what being in charge of the biggest tournament of his long and storied career meant to him.

"I think all tournaments that I have been a part of are great, but this is the biggest event by far in terms of exposure, the size of the build, organisation and the number of people," says Forsyth. "This is the best thing I have done for sure. I'm not saying it's the best turf I've produced – the surfaces weren't quite as uniform in terms of coverage as I would have liked and we had a little bit of scarring on some fairways where we didn't quite get our *Poa* control timing right – but it's probably the best playing conditions I think.

"It was the most talked-about presentation of a golf course that I've been involved with because of its exposure. Where else are you going to get 12 of the best US players turning up to play, including the great man captaining and playing. You just don't get that in Australia every week and it was a lot of fun to be part of.

"I did get a bit emotional at the end, but I managed to hold it together. I do get emotional when I start talking about people and what they've contributed. When you talk about how proud you are of them, it's a bit like talking about your children. You can't help the voice wavering a little, it just happens. I guess it shows just how much you are fully invested in it and invested in the people who have helped you to deliver something special."



Above: Sandringham foreman Darcy Jones was in charge of managing the Santa Ana lee complexes

Below: Winners all round – the Royal Melbourne crew with the victorious US Team. Two points down going into Sunday's singles matches, the US team won 16-14



Anthraxnose
(*Colletotrichum
graminicola*),

Brown Patch
(*Rhizoctonia solani*),

Dollar Spot
(*Sclerotinia
homoeocarpe*),

Helminthosporium
Disease (*Bipolaris spp*,
Drechslera spp,
Exserohilum spp),

Pythium Leaf Blight,
Pythium Root Rot,
Seedling Damping Off
(*Pythium spp*),

Fusarium
(*Fusarium nivale*,
Microdochium nivale),

Take-All Patch
(*Gaeumannomyces
graminis var. avenae*),

DISEASE SUCCESS

Ectotrophic Root
Infecting Fungi (ERI)
[Autumn strategy]

Spring Dead Spot
(*Ophiosphaerella
narmari*),

Take-all Patch
(*Gaeumannomyces
graminis var. avenae*)

Ectotrophic Root
Infecting Fungi (ERI)
[Spring and Summer
strategy]

Couchgrass Decline
(*Gaeumannomyces
graminis var. graminis*),

Take-all Patch
(*Gaeumannomyces
graminis var. avenae*)



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Royal Melbourne head turf technician Mark Stravato inspects one of the fairway units after its morning cut

WORDS AND PHOTOS: BRETT ROBINSON

Mark Stravato is not the sort of person who likes being the centre of attention. The quietly spoken, unassuming Royal Melbourne head turf technician readily admits he gets nervous in group settings and much prefers the familiar confines of the maintenance facility workshop. It's his domain, where he feels most comfortable and where his skills really shine.

The much-lauded turf surfaces presented at Royal Melbourne for last December's Presidents Cup were the result of many things coming together – the knowledge and guidance of one of the most experienced superintendents in the business, the dedication of a skilled and passionate senior crew and the efforts of a 90-strong tournament crew all wanting to showcase their best to the world. But upon addressing the crew for the last time ahead of the final day's play and thanking them all, Richard Forsyth reserved special mention for two in particular.

The manner in which Royal Melbourne's hallowed turf was presented that week would not have been possible without the professionalism of both Stravato and his assistant Noel Jorgensen. Taking it upon themselves, they effectively spent eight months preparing Royal Melbourne's huge fleet of machinery to be at a level demanded for such a prestigious tournament. They put together a meticulous plan to ensure that every machine which rolled out of the compound last December was in the best shape it could be.

On the Mark

To get Royal Melbourne presenting the way it did for the Presidents Cup took a monumental team effort. But there were two men in particular who played a unique role.

Leaks are what give most turf technicians sleepless nights and so Stravato and Jorgensen made the call to replace every hydraulic hose on all machines that were going to be out on the course for the Presidents Cup and covering them with a protective sheath. All up some 220 hoses were replaced, completed as part of a full service on each machine.

That service saw all filters replaced and every part of the machine flushed – traction systems, steering systems, cutting systems. As another precaution, Stravato imported a special biodegradable hydraulic oil from the US, one which is proven to cause less damage on turf in the event of a leak.

"We went over every machine with a microscope so that there were no potential problems," explains Stravato. "Leaks were my biggest fear, so we did a lot of work to prevent any potential leaks on anything that was going on the playing surfaces. Even if something was 50/50 it was replaced. We wanted to try and get the whole fleet as new as possible."

The hydraulic hoses, however, were nothing compared to the work that went on with Royal Melbourne's nine fairway mowers and fleet of greens mowers. Sharpness, uniformity and quality of cut was of paramount importance and Stravato and Jorgensen went to extraordinary lengths to ensure that.

"Because we have nine fairway mowers – some new, some old – there was different wear in the cylinders and also different cylinder designs," explains Stravato. "The newer machines come with more aggressive cylinders. The blades are more curved so they tend to take more grass off and made of a harder steel, whereas the older ones are flatter and not as aggressive. So sometimes you get differences which are noticeable when you are cutting with teams of three – one might be a bit lighter, one darker."

"To make sure I had uniformity across all nine machines, the ones that weren't new I replaced all the cylinders, probably about 40 all up. We stripped every head apart, put the new cylinder in, new bedknives and reassembled. The theory behind doing all that was that the whole fleet of fairway mowers were identical in their cut."



Above: Royal Melbourne assistant turf technician Noel Jorgensen checks and adjusts the fescue mowers. **Above right:** Using imported JRM tournament bedknives enabled a 1.8mm cutting height for the Presidents Cup. A total of 20 e-Flex 2100s and 2120s (two sets of 10) were used to prepare the Suttons Mix greens

GOING LOW...

One of the big talking points of the tournament was the cutting height of 1.8mm on the Suttons Mix greens. Again, Stravato and Jorgensen were to the fore in ensuring such a height was first attainable and then sustainable throughout the event.

To get that low height of cut, Stravato and Forsyth did a trial run at 1.8mm about four weeks out from the tournament on one of the short game area greens. A Toro e-Flex 2100 was fitted with an ultra-thin JRM tournament bedknife and for a week they closely monitored how the turf reacted to the lower height (Royal's normal height is 2.2mm).

The only noticeable issue was that the bedknives were marking a little on some of the slopes, so to remedy that Stravato and Jorgensen ground off some steel, curving off the edges so they couldn't bite in. It made all the difference come the tournament.

And it didn't stop there. Stravato also wanted to ensure that if it was decided to split greens (i.e.: have two mowers cutting the same green from the middle out), that the

mowers used on each green were as evenly matched as possible to prevent any differences in colour or after cut appearance.

To that end, the reel diameters of all 20 greens mowers – a mix of Toro Greensmaster e-Flex 2100s and e-Flex 2120s – were measured and grouped together. It meant that if greens mowing was split – as it was on the Friday morning of the tournament – Stravato and Jorgensen could quickly and easily match up two mowers with the same reel diameter to make sure everything was equal.

Throughout tournament week – which got underway on the Sunday prior to the main event with the Junior Presidents Cup – Stravato and Jorgensen spent most of their time setting the mowers up daily as well as grinding. Splitting the greens mowers into two groups of 10, starting from the first round of the Junior Presidents Cup they would have one set of 10 out cutting while the second set was in the workshop being ground.

Each set of 10 cut for two mornings before being swapped over with a freshly ground set. A fresh set went out on Thursday and Saturday

and, in keeping with the level of perfection they had attained, they turned out another freshly ground set of 10 for the final round on Sunday.

"We were grinding the greens mowers a lot," says Stravato. "We weren't getting a lot of life out of those bedknives because they were so thin. We imported the JRM bedknives as they were the only ones that would let us go down to 1.8mm. I've never had them that low before and I was a little concerned, but Richard wasn't. And the results were fantastic. Those bedknives are shaved really thin and on the underside they are machined right back to the screws. We barely got through the week with each blade which is crazy!"

In addition to the fairway units and greens mowers, the workshop team also set up 14 petrol-powered Flex 21s for the famed fescue surrounds which were maintained at 7mm. They were ground once before the start of the tournament and again during it. A notable feature on some of the fescue walk-behinds is that the drum is covered in rubber to provide extra traction due to the steepness of some of the approaches and surrounds. Tees were also walk-mowed, set up at 6mm and ground just before the start of the tournament.

"We had conversations about how we wanted the mowers to be many months out, but both Mark and Noel took ownership of their area and they were the ones who set the high standards," states Forsyth. "Mark was very fastidious about how sharp the mowers should be, to the point where they turned out a set of freshly ground greens mowers for both Saturday and Sunday rounds.

"They were so dedicated to the task and passionate about their role. The level of detail they went to, you couldn't ask for more than that. The quality of our turf surfaces came down to the quality of their work and I couldn't be more complimentary of their contribution to the success of the event." 🙌



Royal Melbourne's nine fairway units received a huge makeover in the months before the tournament



Kyle Hegland from Sand Hills, Nebraska was one of five US volunteers to make the journey Down Under for the 2019 Presidents Cup

Royal Melbourne hits a home run

Kyle Hegland reckons he should have been born an Aussie. The Wisconsin native and current superintendent at one of America's minimalist masterpieces – the Bill Coore and Ben Crenshaw designed Sand Hills Golf Club, Nebraska – has long had an affinity for Melbourne's famed Sandbelt, an obsession that has developed into an incurable itch over a near 20-year career.

He can lay the blame for that squarely on the shoulders of two-time Masters winner Crenshaw and legendary US superintendent Doug Petersan. While undertaking his turf management degree at Michigan State University, Hegland interned under Petersan at the Crenshaw-designed Austin Golf Club, Texas, which was under construction.

Hegland clearly remembers three photos there, given to Crenshaw by fellow course architect doyen Tom Doak, of Royal Melbourne Golf Club's 18th East hole. As Hegland explains, there was something hypnotising about the photos. They piqued something in him, something he couldn't get over and he vowed that one day he would make the trek to Australia to see it in person.

After graduating with his degree, Hegland returned to work under Petersan. A staunch devotee of the firm and fast school of course preparation, Petersan's ways resonated strongly with Hegland's own emerging philosophies. Add to that his boss's extensive library of golf and course architecture books that he regularly poured over, and Hegland quickly became, as he happily confesses, a golf course architect and turf "dork".

Just over four years at Austin, where he rose to assistant superintendent, at the age of 27 Hegland scored his first superintendent posting at the renowned Sand Hills. It was an opportunity he knew wouldn't come around again and somehow convinced his then fiancée (now wife) Ashley to move from the Texas state capital to Mullen, Nebraska, in the remote high plains of the US Midwest.

Mullen is minimalist too. Just 500 people reside there and the township is situated 12 miles from the golf course. It's a five-hour drive west to Denver, Colorado and a five-hour drive

US superintendent Kyle Hegland is a self-proclaimed turf and golf course architecture "dork". He was therefore a veritable kid in a candy store when he ventured to the Melbourne Sandbelt as one of 45 course volunteers for last December's Presidents Cup.

east to Omaha, Nebraska. As Hegland quips, "it's not on the way to anywhere". He jokes that Ashley was interviewed harder than he was for the job, but he ultimately got the gig and for the past 13 years has been able to indulge his passion for course management. And doing a damn fine job of it too!

Built in 1995 and regarded as one of the most important course constructions of the modern era, Sand Hills is a rugged natural beauty. Coore and Crenshaw's third design together, such is the wonderous topography of the land that just 3000 cubic metres of material was moved during its construction. The end result is stunning – sweeping fescue fairways weaving their way over and through rolling sand hills (hence the name), bentgrass greens complexes that were 'discovered' rather than constructed and huge blowout bunkers.

In its 2019/2020 Top 100 Greatest US Courses rankings list, Golf Digest ranked Sand Hills No.9. As Hegland phrases it, "if you like golf, you couldn't not like it."

FROM MULLEN TO MELBOURNE

Mullen, Nebraska to Melbourne, Victoria is quite the hike – 14,500 kilometres give or take a few. But when you're a golf course superintendent who loves to play golf, is a student of the 'firm and fast' school and who for days could talk golf course architecture, then a pilgrimage to the Melbourne Sandbelt is top of the bucket list. And so it transpired for Hegland last December.

A number of years ago, Hegland saw Royal Melbourne hosting an event on television. He fired off an email to superintendent Richard Forsyth expressing his congratulations on how the course looked and his admiration for that style of presentation. Fast forward to 2017 when it was announced that Royal Melbourne was hosting the Presidents Cup in 2019. By this time Hegland was active on Twitter (@KyleHegland3) and regularly engaged in conversations on his pet topics, course management philosophy and course architecture. One of those he connected with was Australia's own Michael Clayton who suggested he should make the trip Down Under for the Presidents Cup. Seed sown.

Having been a volunteer at various US tournaments and, again, convincing Ashley – yes, she's a saint – to give him a leave

Hayden Westwood addresses the rescue team ahead of the first day of the Presidents Cup



WORDS AND PHOTOS: BRETT ROBINSON



Quail Hollow assistant superintendent Michael Stell was part of the crew. Quail Hollow hosts in 2021

pass, Hegland was ultimately one of 45 selected to assist the Royal Melbourne crew last December. Arriving at Royal Melbourne the Thursday prior to the tournament, what would follow would be 11 days of pure and shameless turf and architectural indulgence.

"I'd dreamed about Royal Melbourne for half my life and to be there for the Presidents Cup was such a privilege," says Hegland. "There are not a lot of places in the US that do 'hard, firm and fast'. We (Sand Hills) think we do it probably as good as anyone in the US, but I wanted to come and see who does it the best. And it was very apparent that Royal Melbourne does it the best in the world.

"I've been fortunate to visit and play a lot of great courses in the US, but I don't think there is anything that can compare to Royal Melbourne, particularly the way Richard and his crew maintain the course and the philosophy behind it. It was so much fun to watch and see how they managed the course



Terrific trio – Royal Melbourne's Gerri O'Callaghan (centre), who managed the bunker crew all week, with tournament volunteers Susana Oliveira (The Grange GC, SA, left) and Kim Kennedy (Kingston Heath GC, Vic, right).

on such a big stage and taking a few pointers here and there for back home.

"I don't like to judge conditioning and presentation, but when you hit a home run, you hit a home run and that's just what they did for the Presidents Cup."

Hegland was a veritable sponge during his two weeks in Australia. The day after all the volunteers were inducted, he walked the Composite Course from tee to green, savouring every step and every vista along the way. As much as he tried, he couldn't find a weakness. Every hole was "a thing of beauty".

But most special in Hegland's eyes were the people he met and those who he worked alongside. Whether it was preparing bunkers, assisting the greens mowing team or filling divots, just the chance to spend time talking turf and doing something he loves on a course that "turns his chain", he was in his element.

"The first thing I noticed had nothing to do with the turf," explains Hegland when

asked what his first impressions were of Royal Melbourne. "It's the people. Richard is an awesome guy and his staff are amazing. You can see the respect they have for each other. It's obvious that Richard has built a great culture here and they do great things because of that.

"You can tell within minutes that Richard is very good at what he does and commands respect. And you don't even have to talk to him to know that. You only have to talk to one of the apprentices to hear the respect everyone has for him.

"Everyone was having a good time, smiling, laughing, enjoying what they do and doing a really good job. It's not often you see that in the US and it was so refreshing to be part of that every day. It's something that I'm trying to do at my facility – build a culture where you have fun doing what we do. As turf managers we do some pretty awesome stuff every day and you got to smile and have fun doing it, otherwise what's the point.

"To me, everything about Royal Melbourne is right. From the leadership, to the crew, to the course, to the greens; it is perfect. Why can't the rest of the golfing world figure this out?!"

As well as working the Presidents Cup, Hegland also took the opportunity to visit a number of other courses in and around Melbourne during his stay. Within hours of stepping off the plane from the US he was teeing up on the Old Course at The National. In between his shifts he was visiting the likes of Yarra, Metropolitan, Kingston Heath and Victoria, chewing the ear off the respective superintendents. It was invigorating for the 41-year-old and he returned home with a

Member of the Royal Melbourne crew for the 2011 Presidents Cup, now Horizons Golf Club superintendent Duncan Begley returned to volunteer in 2019





Michael Clavin (The Dunes, Vic) was one of a number of apprentice volunteers on the crew

catalogue of memories, not to mention a collection of books for his own burgeoning turf and golf library.

"You have an embarrassment of riches in Melbourne," states Hegland. "It was so fun to be there and go around visiting those great courses and meeting wonderful people. Everyone was fantastic and so accommodating. I must have screwed up somewhere along the way and was born on the wrong continent. Those people are my sort of people."

FROM FAR AFIELD

Hegland wasn't the only visitor from foreign shores last December to rave about Royal. In between their shifts, fellow American volunteers Peter Braun (assistant superintendent, The Minikhada Club) and Paul van Buren (superintendent, Kanawha Golf Club) wrote blogs for US turf management website TurfNet.

In his final Presidents Cup post, Van Buren was effusive in his praise of Royal Melbourne, rating his time as "the most professionally enlightening experience one could ever imagine."

"Pictures cannot capture the dedication of the 45 full-time staff members who care for this 36-hole golf mecca. From the moment you step foot into the futuristic maintenance facility, you are met with the most proud, professional, enjoyable human beings on the planet. And it absolutely starts at the top.

"One hundred per cent of the dynamic, of the perfection/imperfection (however you choose to appreciate it) of Royal Melbourne comes from Richard Forsyth. Richard is the man. An absolute legend in his own time. His



Kiwi volunteers (from left) Barry Shannon, Sam Keats, Yannick Weber, Dan Moreton and Dylan Griffin

morning assignment meetings were poignantly hilarious and a great time for Richard to riff with his staff over the prior days follies. Down to every little detail, Richard and his managers got 45 volunteers in lock-step with the regular staff in just a few days.

"It was an amazing adventure... and to experience golf in a completely different culture has been inspiring beyond expectation."

Quail Hollow, which will host the next Presidents Cup in 2021, was also represented at Royal Melbourne. Superintendent Keith Wood was out for a few days to get a feel of the tournament set up and rode shotgun with Forsyth as the crew went about their preparations ahead of day two. His assistants Michael Stell and Parker Henry were on crew for the week, cutting greens and fairways.

Also lending their services on the international stage were a couple of dynamic

duos. Husband and wife team Adam Fry (assistant superintendent, Kooyonga GC) and Susana Oliveira (senior greenkeeper, The Grange GC) drove across from Adelaide, while Longyard Golf Club superintendent Adam McMahon and his apprentice Jock McPherson journeyed down from Tamworth.

Then there were identical twins Mitchell and Luke Driver. Between them they have worked around the world in recent years and notched up more than 12 tournaments. Indeed, only a few months before teaming up at the Presidents Cup, they were working alongside each other at the 2019 Solheim Cup at Gleneagles, Scotland, Luke joining his older sibling who was a seasonal greenkeeper there at the time.

And, finally, there was a strong contingent of New Zealanders, with six making their way across the Tasman – Sam Keats, Dan Moreton and Dylan Griffin (all Tara Iti), Yannick Weber (Cape Kidnappers), Phil Iball (Jacks Point) and the legend Barry Shannon (ex-Belmont Golf Club). For Shannon, it was a particularly special week and provided a perfect bookend to a storied turf management career spanning more than four decades.

Recipient of the NZGCSA's highest honour last June, the Distinguished Service Award, Shannon had three months prior to the Presidents Cup hung up the hole changer for the last time at Wanganui's Belmont Golf Club after 37 years in charge. Shannon had never volunteered at a tournament in his whole career, but after contacting his old mate Forsyth he got a tournament guernsey.

"Richard looked after me," laughs Shannon. "It was a fantastic week and I thoroughly enjoyed being inside the ropes for such a major event. The course was a picture and the whole atmosphere was amazing to be part of. I had never done anything like this before; now I wish I had!" 🏌️



Newcastle Golf Club volunteer Jordan Phillips cuts the fescue approach on Composite 12 (2 East)





From one **Royal** to another

After seven years at RACV Royal Pines Resort, the Australian PGA Championship is on the move in 2020. ATM editor Brett Robinson looks back at last December's event which brought to an end a 27-year tournament run for the Gold Coast course.

Last December's PGA drew the curtain on RACV Royal Pines' seven-year tenure hosting the tournament. Pictured is the 10th



The RACV Royal Pines crew on the 18th green after their final round preparations for the Australian PGA Championship last December

When Lincoln Coombes arrived as the new course superintendent of RACV Royal Pines in November 2011, little did he expect the journey he would ultimately end up taking in the proceeding eight years. It was essentially a lifestyle choice to uproot his young family from the Mornington Peninsula back then and head to the warm climes of the Gold Coast, but within 15 months of arriving at the resort course Coombes found himself involved in one of the most challenging and rewarding periods of his career.

Already home of the Australian Ladies Masters, it was in February 2013 when the PGA of Australia announced that its flagship event – the Australian PGA Championship – was moving from Hyatt Coolum to the Gold Coast. Shortly after Coombes had marshalled the troops for the first PGA in early November 2013, a full championship course reconstruction ensued over the next two years. The front nine was first, between the 2014 Ladies Masters in February and 2014 PGA which had been moved back to late November/early December, and then the back nine between the 2015 Ladies Masters and 2015 PGA.

From the flat, benign track that it once was, the Graham Marsh remodelling turned Royal Pines into one of the most feared tournament layouts (indeed, it now ranks second behind Brookwater as the toughest in Queensland). All the new surfaces were solid turfed and for the 2014 and 2015 tournaments Coombes and his crew had to prepare a mix of old, new and maturing holes. It was a huge challenge, but one they ultimately pulled off, and in the years since the new playing surfaces have continued to mature and bed down nicely.

After its five contracted PGAs between 2013 and 2017, the tournament continued on in 2018, but by this time there were discussions about the tournament’s future at the resort. That talk grew louder leading into last December’s tournament and sure enough just a little over three weeks after Adam Scott collected his second Joe Kirkwood Cup, the PGA of Australia announced that the tournament was heading up the M1 to Royal Queensland Golf Club for the next three years.

After seven consecutive PGAs, it was a bittersweet announcement for Coombes and his crew, bringing to an end an incredible

27-year run of hosting tournaments. In addition to the PGA, for 25 years up until 2016 it was also home of the Australian Ladies Masters (the tournament was rebadged as the RACV Gold Coast Challenge in 2017). During that time a who’s who of the international women’s game strode the Royal Pines couchgrass fairways, among them champions Jane Crafter (who won the first there in 1992), Laura Davies, Annika Sorenstam and Karrie Webb who collected an incredible eight titles.

For Coombes, last December’s tournament was the 13th televised event of his tenure there, while for some of the longer serving members of the crew, among them turf tech Tony Henderson (21 years), Chris Hood (16 years), Kai Harness (13 years), Graeme McGrath (12 years) and David Pank (11 years), between them they have notched up nearly 100 tournaments. Although philosophical about the tournament moving on, Coombes is immensely proud at what he and his team have managed to achieve since the tournament landed on their patch.

“Talk about the tournament moving had been around for a while,” reflects Coombes. “It’s sad to see it go because I think each year, since the reconstruction, the course has been getting better and better. I wouldn’t say it was easier each year, but we got to understand more what the course was doing. In saying that, it will be nice to have a rest. At least now I’ll be able to attend some of our suppliers’ Christmas parties that I have always had to miss!

“When I first moved up here I knew I’d be involved with the Ladies Masters, but never in my wildest dreams did I think we’d be hosting the Australian PGA Championship and that we’d go through a full course reconstruction, manage the grow-in and host tournaments in



One of the best tournament hole changers in the business – assistant superintendent Greg Jager



David Duncan headed the fairway crew for the tournament

and around it all. I certainly look back on my resumé now and never would have thought it would look like what it does now.

"I am incredibly proud of what we have achieved over the past seven years. Each tournament has had its own challenges both on and off the course. The guys put in a lot of work each year to get the course up and we often didn't have the big crews that some of the other major tournament courses have had."

Looking back, Coombes can pick many highlights. From a golfing perspective, the redevelopment reinvigorated Royal Pines, taking it from a course that would routinely get slaughtered by the pros and turning it into a much-vaunted tournament venue. It certainly tested the best off the back markers and has had a knack of producing some riveting finishes, none better than the epic seven-hole playoff between eventual winner Greg Chalmers, Adam Scott and Wade Ormsby in 2014.

There has also been a lot of variation during that period after the resort's 'concert lawn' was transformed into a training venue. After undertaking some significant renovations to the area (which often doubled as a car park during major events), the feather in the cap came when the resort hosted a training camp for Manchester City Football Club. That provided the catalyst for other elite sporting clubs to use the Royal Pines facilities, among them NRL, A-League and AFL sides (the most recent being Coombes' beloved Richmond Football Club), as well as, in recent years, the Chinese men's and women's national soccer teams.

However, what gives Coombes most satisfaction has been seeing his staff grow during this time and how they've relished being a part of all aspects of maintenance operations. It has been by no means easy and over the years Coombes has had to

watch his staffing levels drop from a peak of 22 full-timers down to a present crew of just nine full-time staff and five casuals. Despite that reduction Coombes says they have never wavered in their desire to present the best course possible and have always found a way to be get the job done. And that comes down squarely to having a great crew.

SMALL CREW, BIG RESULTS

The 2019 PGA and its lead-in had a different feel for Coombes and not just because of the talk surrounding the tournament's future. Initially scheduled for the last week of November, back in March last year the PGA of Australia announced that the tournament was moving to the weekend just prior to Christmas due to the Presidents Cup at Royal Melbourne.

Coombes also had to contend with an extremely dry run of weather between July and December, as well as a heavy corporate golf schedule which forced a switch to his greens renovation programme from its usual September timeslot to January/February 2020.



Kai Harness triplex cuts greens at 3mm

Despite those challenges, the course that Coombes and his team presented received nothing but positive feedback from players and officials.

"The six months leading into the tournament were very dry," explains Coombes. "We were below 50 per cent of our annual average rainfall for the year and ended up with just 658.5mm. I remember thinking that is more like Melbourne's yearly average – normally we talk in metres up here! Of course that all changed in late January/early February and we went from one extreme to the other. We had 301mm fall in one hit – nearly half of our entire 2019 total – and by the second week of February we were sitting at a year-to-date of 660mm, 2mm more than what we had for all of 2019!

"Considering the lack of rain, the course came up well for the tournament. Luckily we have recycled water, but you could tell the turf was getting to the point where it was starting to suffer a little. We were watering fairways from dawn to dusk and pulling a lot of hoses and knockers around the place to make sure the edges got a bit more moisture into them. We injected a bit of wetting agent and citric acid to help the water become a bit softer and get into the profile which worked well."

The biggest challenge for Coombes, however, was having the tournament so close to Christmas. The traditional early December timeslot meant it was easier for surrounding clubs to send over a few more volunteers for the week. That wasn't the case this time and on top of that Coombes also had to contend with losing four full-time qualified staff over the previous 12 months who were replaced by casual staff.

"We started our preparations earlier than normal due to the timing and knowing we wouldn't have as many hands-on deck," explains Coombes. "Three of our casuals started within a few months of the tournament, so we had to get them up to speed quick. That's where the more experienced guys on crew really stepped up.

"When you see the crew numbers at The Australian and Royal Melbourne, and you look at our little crew here, I was very happy with the way the course presented for the week. I'm so proud of the boys – they were fantastic and dug in deep. There's always more that you would love to do, but at the end of the day we are a public golf course – the Saturday before the tournament we had 287 golfers go through!"

ALWAYS SOMETHING...

Unlike some past PGAs at RACV Royal Pines, the weather thankfully played ball for the 2019



Left: Darryn Avery trims the surrounds

Above: Tom Bath (pictured) and fellow Sanctuary Cove crew member Graeme Andrews rolled greens

edition and the tournament was contested in superb conditions. In saying that, Coombes did have to deal with something out of left field on the Sunday before the tournament after a sprinkler on the collar of the par three 16th green let go, sending a torrent of water, sand and soil spewing across the surface.

"We had a nice little water feature there for a while," jokes Coombes. "It happened about 5pm on the Sunday just as we were about to head home. The course was closed that afternoon so we took the opportunity to get everyone in to do some cutting and spraying, including an application of Primo on the greens.

"The boys were in the shed packing up and all of a sudden I get a call from one of the PGA officials telling me there's water running across the 16th green! One of the sprinklers on the right-hand side had blown straight out of the tapping saddle, sending water and soil across the green, over the hole and down the front of the green into the lake.

"The sprinkler was right next to the greenside bunker, but luckily it blew upwards

so it washed out all sand from above it and didn't compromise the bunker. We shut it down and called all the boys back in. They grabbed shovels and brooms and started cleaning off as much of the sand and soil as we could and then came back in on Monday and hosed off the rest and repaired the break."

Coombes was grateful for a few helping hands during the week. Mature-age apprentice Ryan Murphy, who two weeks earlier had volunteered at the 2019 Emirates Australian Open, came across from Lakelands Golf Club to help cut greens. Graeme Andrews and Tom Bath, both from Sanctuary Cove, rolled greens every morning, while Lance Woodham and Trent Knapp also journeyed down from Meadowbrook to jump on a fairway mower.

Preparations didn't deviate much all tournament week, with the TifEagle greens receiving a triplex cut at 3mm morning and afternoon, with the rollers going across them after the morning cut. The Wintergreen fairways were kept at 9mm, down from the 10mm of previous tournaments. The height of cut was brought down after winter and

Coombes says that even though it was only a 1mm difference, the fairways looked much cleaner and tighter as a result. Tees and surrounds were at 6mm.

UP THE ROAD

The PGA tournament mantle now passes to Royal Queensland superintendent Adam Mills who has been in charge there since mid-2017 after the sad and sudden passing of former superintendent Marcus Price. Mills, who volunteered his services at the 2019 Emirates Australian Open, and his crew got a practice run when they hosted the 2020 Australian Amateur Championship in mid-January. The course received great reviews and luckily the tournament concluded just minutes before a torrential downpour smashed the course.

The 2020 PGA coincides with the club's centenary celebrations (one of the reasons the club was eager to host the tournament) and sees the return of an event which it hosted back in 2000 and 2001. Since that time, the course has undergone some significant changes thanks to the duplication of the Gateway Bridge, the club losing a total of six holes to the east of the new motorway. That forced a major redesign of the layout under the auspices of course architect Michael Clayton, with the new-look design completed in 2007.

Writing on the OCCM website, Clayton notes "the new course is characterised by wide fairways, very little rough, bunkers cut right into the middle of fairways at several holes and a number of undulating greens. It is quite a flat course but it asks the strategically aware to think about where best to set up the best line of approach for the next shot.

"No course we have designed better exemplifies the principle of players having to make up their own minds about how best to play a hole as opposed to being told exactly how to play it by the architect or superintendent." And that will be put to the ultimate test when it hosts the game's best come the end of the year. ⚡

It was a busy summer for Lakelands Golf Club crew member Ryan Murphy having volunteered at both the Australian Open and PGA Championship





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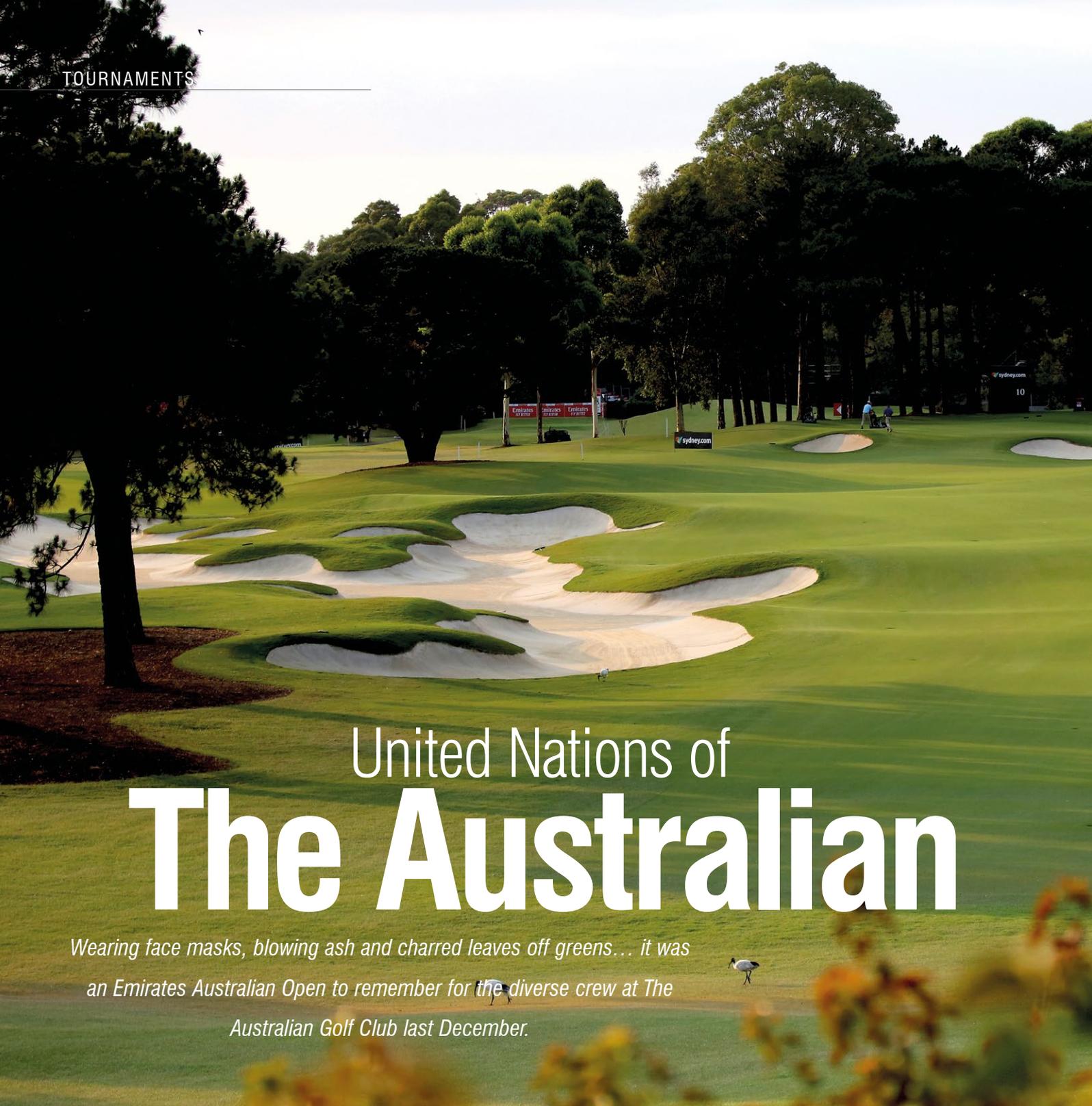


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PHOTO: Southern Pines Golf Course, US



United Nations of The Australian

Wearing face masks, blowing ash and charred leaves off greens... it was an Emirates Australian Open to remember for the diverse crew at The Australian Golf Club last December.

Since migrating from the UK back in 2005, Phil Beal has had plenty of time to acclimatise to the vagaries of Australia's (and Sydney's) fickle weather. His first superintendent posting was at Twin Creeks Golf and Country Club in Sydney's western suburbs, which as anyone will tell you can get brutally hot during the peak of summer. But in the 10 years since taking over as custodian of The Australian Golf Club, he can't quite recall more surreal conditions than what prevailed the week of last December's 2019 Emirates Australian Open.

After a challenging lead-in thanks to a very dry and relatively cool spring, come the week of the tournament Beal, as well as tournament officials, were thrown a curveball out of left field. Fanned by westerly winds, the bushfires raging to the west of Sydney and up on the Central Coast at the time sent a choking smoke plume which blanketed the harbour city pretty much the entire week.

With air quality officially rated hazardous, the smoke was that thick in the early part of the week that some of The Australian crew resorted to wearing face masks as they went about their preparations. Conditions hadn't



Left: The 2019 Emirates Australian Open was the fourth time in six years that The Australian had hosted the tournament, taking its total to 21, the most of any other club in Australia

Above: The Australian's tournament crew numbered 50, with 28 volunteers from across Australia and around the world assisting Phil Beal and his team

improved much by the time the tournament teed off on Thursday, with Kiwi professional and asthma sufferer Ryan Chisnall playing his opening round wearing a face mask. 2015 winner Matt Jones, who would eventually go on to win for a second time on a much clearer Sunday, commented after his first round that they were the worst conditions he had ever played in.

"I've never experienced anything like this," stated Jones. "Even when I played in China I don't think it was like this at all. The smoke's not good. It's tough to see where your golf ball finishes. Your eyes do burn and I've got that

cough like you've got something in your lungs. It's not fun."

For Beal and his tournament crew of 50, every morning they went out with backpack blowers to clear the greens of ash and in some cases burnt leaves that had settled on the course overnight prior to cutting. Indeed, all The Australian's fleet of mowers and maintenance vehicles were covered in a thin veneer of black soot all week.

"The conditions were pretty challenging to work in," explains Beal. "The smoke haze was very bad early in the week and for the golfers the first round was probably the worst.

It cleared up by the weekend but the haze was still very visible.

"Some of the guys on the crew wore masks while out on the course and quite rightly too. At one point on the Tuesday after lunch I was considering bringing everyone in as the smoke was that bad. Every morning there was ash everywhere and it looked a mess. It was amazing just how much there was. I don't think it had an effect on the greens, but you just don't know."

DIALLING IN

Despite such unique circumstances, Beal and his crew ended up producing another sublime stage for what was the club's 21st hosting of the Open. Among some of the key practices to get the course up for the tournament in the months and weeks leading up to it included;

- *Poa annua* infestation on the A1/A4 bentgrass greens proved a headache over the cooler months. Assistant superintendent Dave Smith and crew member Sean Breen spent numerous

WORDS AND PHOTOS: BRETT ROBINSON



Marcus Strand, one of two Swedish seasonal greenkeepers on The Australian crew, was among a number of staff to don face masks to combat the smoke during tournament week

hours plugging areas out, with around 5000 plugs pulled and replaced.

- Renovations were undertaken on all surfaces at the start of September.
- The 1.25 hectares of greens were cored with 12mm Toro Titan tines, amendments (a total of five) added and 48 tonnes of topdressing sand spread and rubbed in.
- Renovations on the Santa Ana fairways were less aggressive than in years past. Using a Toro 7000-D, the fairways were



Bill Whybrow (right) leads the front nine fairway crew down the 3rd on the morning of the final round

scalped down four times, with the height dropped to the lowest that the EdgeMax bottom blades could go to ensure scalping remained uniform. Scalping began with a green-to-tee mow through all 18 holes to remove as much grain as possible. That was followed by a left-to-right stripe and right-to-left stripe before being given one final cross cut scalp (9 to 3 pattern) then topdressed.

- Likewise with the bunker edges, due to some incidence of BF1 disease, it was decided not to scalp them as aggressively in the tournament lead-up. Flymos set with two-and-a-half spacers were used instead. With more frequent fertilising and Primo applications, the bunker surrounds were a lot tighter and less puffy than previous tournaments.
- The Grand Prix tees – a constant source of headache for Beal since the course was

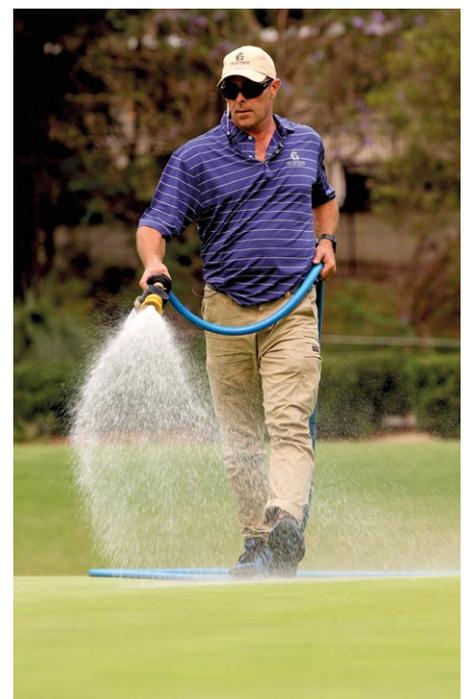
renubished between 2012 and 2013 – were again problematic. While they ultimately presented fine for the tournament after a very light renovation, Beal was still not happy with them and is looking at converting them in the coming years, most likely back to Santa Ana.

- After the greens had recovered from renovations, they were dusted weekly up until the week before the tournament. Rates were initially 650kg before being upped to 750kg.

“Spring really didn’t help us out a lot this time,” reflects Beal on the lead-in. “It was very dry and we didn’t get the temperatures we wanted. We topdressed the fairways and then they just sat there which was very frustrating. They only really started growing in November



Deadly duo... The Australian’s Keith Simms (foreground) teamed up with Eastlake volunteer Toby Ardler on greens mowing detail for the Open. The A1/A4 bentgrass greens were cut at 2.8mm



Jamie Smith hand-waters the 17th green



Oatlands assistant superintendent Martyna Synak volunteered for her second Australian Open

and two weeks out we had a lot of seedhead come out. We got rid of that by cutting in a different direction and then putting Primo out and they ended up being pure for the tournament – tight and firm, just superb.

“The greens were a little bit weird throughout the week, more so than in previous years when we have had the tournament. We usually get into them on the Saturday morning before tournament week with a double cut at 2.8mm and the speed normally comes straight away. But it didn’t this time. Why, I’m not sure. So we had to play around with them all week, trying to get some firmness and consistent speed out of them.

“By the weekend of the tournament they hadn’t had a good water for 9-10 days and in hindsight I wish that I’d dumped them on the Sunday. When they started to dry out we probably hand-watered them a little too much, so they were a little bit softer than I would have liked and therefore couldn’t get the speed as easily as in previous years. We ended up single cutting and rolling to get the pace. It was a little frustrating, mainly because the rest of the golf course was absolutely pure which was really pleasing.”

HANDS ON DECK

Since hosting the Open on the new-look layout in 2014, Beal has always had a strong volunteer corps assisting his regular crew for each tournament and 2019 was no different. A total of 28 volunteers were enlisted and arrived the Saturday before tournament week, taking the crew up to 50. It was a veritable United Nations that kitted up each day, with the likes of England, Ireland, Scotland, Sweden, Poland, the USA and France all represented, not to mention two very proud Aborigines

Former Australian crew member and ex-pat Kenny Adams (now Bonnie Doon) returned to help out trimming approaches and green surrounds

in Australian crew member Keith Simms and Eastlake Golf Club volunteer Toby Ardlar.

A number of interstate superintendents jetted in, among them multiple Victorian Open host super Steve Hewitt (Thirteenth Beach Golf Links) and Royal Queensland’s Adam Mills who will prepare his course for the 2020 Australian PGA Championship after it was named as the new host venue.

Irishman Sean Breen, who is full-time on The Australian crew, had his brother Chris (Rosapenna Hotel and Golf Resort in Donegal, Ireland) riding shotgun for the week. UK based superintendent Russell Lewis journeyed from Hale Golf Club near Manchester, while Max Hope made the trip from Gleneagles in Scotland.

UK greenkeeper Bill Whybrow, who volunteered at the 2017 Open, also returned but this time as a seasonal, while Victorian Lachie Kenna took leave from his role at Royal



Jake Smith rolls the 11th green

Wimbledon Golf Club in London. The crew also included two female turf managers – Oatlands Golf Club assistant superintendent Martyna Synak, who had previously volunteered in 2014, and WA-based Brittney Goldsworthy.

“The whole of the week was superb,” enthuses Beal. “The volunteers were a super bunch and we had a great mix – a few superintendents, some internationals and Martyna and Brittney here as well which was sensational. They all gelled brilliantly and went about their work setting up the course so easily and seamlessly in the mornings. Having the course closed the Saturday and Sunday before made it so much easier to get them around the course and show them their various tasks. And they smashed it – I couldn’t have been happier with them.”



NEW DIGS

The highlight of the tournament, for the crew at least, was being able to operate out of a brand-new maintenance facility, the culmination of years of planning and the investment of some significant resources by the club.

The maintenance facility redevelopment occurred over two stages, the first being the construction of a new satellite storage facility in between hosting the 2015 and 2017 Opens. Located about 200m away from the main compound between the 5th and 6th fairways, this area contains 400m² of machinery storage, a washdown bay, a fuel tank and refill area, a chemical storage and handling facility, a fertiliser store, water treatment facility and five sand bays.

The second stage of works, completed last winter, saw the complete redevelopment of the main compound. Construction started the previous winter and the finishing touches were still being put to the new structures and internal layouts as tournament preparations started to ramp up.

The main compound comprises a 500m² staff amenities building which includes senior staff offices, lunch room/meeting room and staff locker rooms. Across the compound is an 800m² workshop and machinery storage area which has a mezzanine above the workshop area. The new facility is a far cry from the previous and as Beal says it made such a huge difference when accommodating an expanded crew for the tournament.

"It was brilliant," says Beal of the new facility. "Whether it's just our daily operations or hosting something like the Open, having the space makes everything far more efficient and relaxed. We can easily get up to 60 people in here at one time. It's what a maintenance facility should be. It's not over the top and it makes such a difference in the way everyone can go about their tasks.

"We knew what this part (the staff amenities facility) was going to be like and we knew how much space we had over there (the workshop). Turf technician Josh Cuch has set up the workshop amazingly well. The most surprising thing has been the space and how much bigger the yard is outside. What makes the new compound work is having that satellite area. If it wasn't for that space, which has the washdown, chemical store, fuel area and sand bays, then this area wouldn't work as it does.

"The whole facility has been incorporated nicely into the surrounds of the 5th green and 6th tee area. The goal was to hide it from the golf course as much as possible and I think we managed to do that. We increased the mounding at the back of the 5th and also pushed the 6th tee back about



The Australian's 3IC Mat Soles sets up the practice putter early on Sunday

10m. It has been received really well by the members and it doesn't look offensive or stick out at all. The landscaping around these areas will continue to grow and overtime it will disappear from view even more."

The new facility was used to conduct a special seminar on mental health, organised by Beal, after the crew had completed their Friday preparations. Held in conjunction with Beyond Blue and supported by the NSWGCSA and Australian Sports Turf Managers Association (ASTMA), the seminar broached topics on workplace wellness and the signs and symptoms of depression and anxiety.



Jacob Smith tests moisture levels in the 3rd green after completion of Saturday's third round

"We had about 60 attend which I was really pleased with," says Beal, who came up with the idea following his own battles with mental health over the years. "As well as the tournament crew, we had a couple of superintendents come in with their crews which was really positive to see. I hope those who attended got something out of it, even if it's just to generate some more awareness of these sorts of issues, the signs to look out for and what steps to take to seek help.

"The club were very supportive and ran with the idea and it was also great to have the support of Beyond Blue, NSWGCSA and ASTMA. The Beyond Blue ambassador who addressed the group talked through some of the issues he had faced and highlighted that when you start losing enthusiasm or not enjoying the things that you would normally, that's when you need to take action. It is so important to be aware of the signs and I know because I've had to go through that."

TOURNAMENT BREAK

Having hosted four Opens in the past six years (2014, 2015, 2017 and 2019), the Australian Open heads south in 2020, the first time the tournament has been in Victoria since 2005 when Moonah Links hosted. It will be played for the first time in Melbourne since the 2002 Open at Victoria Golf Club which was reduced to 54 holes due to unplayable conditions. The Open returns to The Australian in 2021 and 2023, with the revitalised Victoria Golf Club to host in 2022.

While it will afford Beal and his crew a decent break from the rigours of tournament preparation, by no means will the foot be taken off the accelerator. A number of projects are in the pipeline, including extending the back tee on the par four 16th as well as a new cart path on the 4th. The major project, however, will come this August with the revamp of the southern driving range area.

With the northern range undergoing a revamp in the lead-up to the 2019 Open, the southern range, wedged between the 17th and 18th fairways, is set to have a multi-purpose makeover. While it will continue to primarily function as a driving range, it will also incorporate six holes which can be turned into a short course suitable for kids, women's Try Golf or older members who struggle with the length of the championship course.

A 2000m² putting and chipping green will also be constructed, along with a 2000m² teeing ground and five greens. That will bring to an end what has been more than eight years of major projects that the club has embarked upon since the initial Jack Nicklaus course reconstruction started back in June 2012. 🏌️

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A further 18 up and coming turf managers will take part in the 2020 Future Turf Managers' Initiative this March

Leading the way

ATM profiles the latest intake of turf managers to be accepted into the ASTMA Future Turf Managers' Initiative, presented in partnership with Jacobsen, which will be held in March.

Since its inception in 2016, the ASTMA Future Turf Managers' Initiative (FTMI) has provided an essential stepping stone for turf managers looking at improving their skill set to take on the next challenge in their careers. Many of the Jacobsen-sponsored programme's alumni have gone on to reach the top tier, with 2019 FTMI participant Scott Reid being the latest. Shortly before New Year, Reid was successful in gaining the superintendent role at Launceston Golf Club, making the move across from Country Club Tasmania.

A further 18 up and coming turf managers will look to emulate Reid's achievements in the coming years when they converge on Melbourne from 15-17 March for the fifth annual staging of the FTMI. This year's group includes two New Zealanders, as well as a couple of ex-pat Canadians and ex-pat Englishmen, and all have gained significant experience as their careers have progressed. Many of this year's group have



either completed internships through The Ohio Program or played significant roles in major tournament preparations both here in Australia and around the world, including the recent Presidents Cup at Royal Melbourne Golf Club.

The 2020 class will be joined by three superintendent mentors who will help guide and assist the candidates throughout the intensive 2.5-day programme. Stuart Campbell, who was a part of the very first FTMI programme in 2016, will make his mentor debut having taken over as superintendent at Maroochy River Golf Club on the Sunshine Coast last year. Also returning is experienced Kiwi dual general manager/superintendent Leo Barber (Paraparaumu Beach Golf Club) who has been a mentor for the past two FTMIs. The ASTMA, together with Jacobsen, congratulates the following Class of 2020...

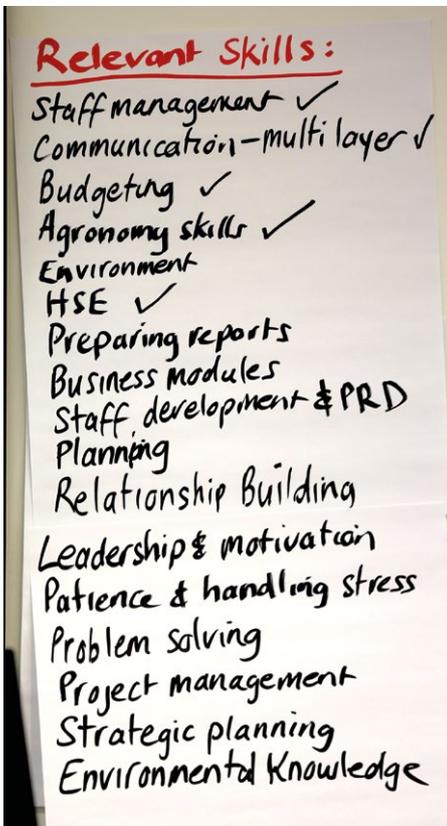


MARK BATEMAN
Assistant superintendent
Koorinal GC, Vic

Originally from Queensland, Bateman's first taste of the

industry came preparing bowling greens for play during the school holidays. That progressed into a six-year stint at Rockhampton Golf Club before he headed overseas to take on an internship through The Ohio Program at Fiddle Stick Country Club in Florida.

Returning home, between 2007 and 2011 Bateman was bowls superintendent at Emu Park Bowls Club in Yeppoon, before taking on an area manager role for the Coochie Hydrogreen Lawn franchise. Between 2014 and 2016 he was assistant superintendent at Capricorn International Resort and was all set to take over the head role when the resort shut down. Managing to convince his family to move to Melbourne so he could do his Diploma and gain some much-needed cool-season grass experience, Bateman spent a



Since its inception in 2016, the FTMI has provided an essential stepping stone for turf managers looking at improving their skill set to take on the next challenge in their careers

year at Northern Golf Club before moving to Koorinal Golf Club as a foreman/irrigation tech.

Working under superintendent Tay Wilson, over the last 14 months Bateman has completed his Diploma, was project manager for Koorinal's green surround irrigation upgrade, risen the ranks to dual assistant superintendent and also volunteered for the 2019 Presidents Cup. In addition to being selected for this year's FTMI, Bateman has also applied to be part of the course management team at The Kasumigaseki Country Club for the 2020 Tokyo Olympics.



SIMON BLAGG

Assistant superintendent
The Lakes GC, NSW

Now an Australian citizen, Blagg grew up in sunny Cheshire in the UK, gaining his turf qualifications at Reaseheath College. While studying there over a four-year period, he worked at Keele Golf Club and also completed a two-month placement at The Oval cricket ground, working under legendary groundsman Bill Gordon. He then secured a voluntary groundsman position

at his local cricket club – Maer and Westlands – before working a season at Leek Golf Club.

In 2008 Blagg headed to the US, taking on an internship through The Ohio Program. He initially spent the first six months at Whistling Straits (host of the 2020 Ryder Cup) before moving south to work a further six-month stint on the Blue Monster course at Doral Golf Resort and Spa. In March 2009 he got his first taste of working a professional golf tournament when Doral hosted the annual World Golf Championship event.

The Ohio Program was a life changing experience and opened up a number of avenues moving forward for Blagg. After his Ohio internship had finished up, he spent a couple of seasons at Loch Lomond Golf Club in Scotland, being part of two Scottish Opens. In between one of those seasons, he headed to Australia after securing a seasonal position at New South Wales Golf Club. Blagg spent six months there during which time the club hosted the 2009 Australian Open.

In 2010, Blagg secured a sponsorship visa at Roseville Golf Club and the following year was promoted to assistant superintendent. In January 2016, he started his current job as one of two assistant superintendents at The Lakes Golf Club and played a major role in overseeing preparations for the 2018 Emirates Australian Open.



SHAUN BOWDEN

Assistant superintendent
Pennant Hills GC, NSW

Originally from the country, Bowden was fortunate to start his career at Elanora Country Club on Sydney's Northern Beaches. Under the guidance of superintendent Dan Cook, he completed his Cert III, IV and Diploma, along with gaining a huge amount of experience in all areas of

golf course management. After his time at Elanora, Bowden moved to the Gold Coast and worked briefly at The Grand Golf Club under Rod Cook before heading to The Glades Golf Club to work under and learn from Glenn Gibson-Smith. Bowden was then successful in applying for the vacant assistant superintendent role at Pennant Hills Golf Club in Sydney, working under the highly experienced Richard Kirkby.



HAMISH BUCKINGHAM

Assistant superintendent
Commonwealth GC, Vic

Growing up on a farm in New Zealand, Buckingham played golf five days a week after school at the local course where his father did the volunteer mowing. After finishing high school he decided that with his farming background and passion for golf, a career in the turf industry was the ideal path to take.

After completing his apprenticeship at Otago Polytechnic and spending time at Wanaka and Alexandra golf clubs, in 2011 Buckingham landed a job at Royal Melbourne Golf Club after visiting the course prior to that year's Presidents Cup. Shortly after moving to Melbourne, he completed his Diploma in Sports Turf Management and worked his way up to foreman in 2015. His time at Royal Melbourne proved the perfect grounding for his next move which was across to Commonwealth Golf Club as assistant superintendent at the start of 2019.

Highlights of Buckingham's career to date have included working televised events, most notably the 2011 Presidents Cup and volunteering at the 2019 Solheim Cup. As well as developing his skills in golf course and turf management, Buckingham is also nurturing a developing interest in golf course architecture.



2020 FTMI participant Sam Butler was part of the team at the Sydney Showgrounds until taking on a role at Sydney's exclusive Barker College last September



SAM BUTLER

**Greenkeeper
Barker College, NSW**

Butler started her career as a horticulture apprentice at Holroyd City Council (now Cumberland City Council), receiving the 2013 Horticultural Apprentice of the Year and Overall Apprentice of the Year awards for 1300 Apprentice Training Group at its completion. In 2016 she joined the team at the Sydney Showgrounds in a hort role where she also assisted then head curator Terry O'Keeffe with preparation of the arena for the likes of Big Bash League, AFL and A-League matches.

Once she started working at the Showgrounds, Butler's eyes were opened to the possibilities of what she could achieve in the industry. To that end, in 2018 she took unpaid leave to travel to the UK and broaden her knowledge. She spent three months interning at Campey Turf Care Systems before spending a further three months at London's famous Arsenal Football Club.

During her time at the Showgrounds, Butler was featured alongside AFLW Giants players and seasonal crew members Pepa Randall and Aimee Schmidt on the front cover of Australian Turfgrass Management Journal (Jan-Feb 2019 – Volume 21.1). Butler left the Showgrounds at the end of September and is currently a greenkeeper at Sydney's Barker College.



AARON CACHIA

**Assistant superintendent
Ryde-Parramatta GC, NSW**

Growing up in rural Queensland, Cachia played a lot of sport so working outdoors was a natural progression. He completed his apprenticeship at Sydney's Strathfield Golf Club in 2009 and was soon appointed the 3IC/irrigation tech at Eastlake Golf Club. An opportunity to work at the exclusive Ellerston golf course opened up and while it was a challenging environment he was able to learn a great deal and cement his aspirations to keep pushing forward.

These experiences established a strong footing to work up to a 3IC role at Ryde-Parramatta Golf Club where he completed a Diploma of Sports Turf Management, collecting the STA NSW award for achieving the highest pass mark. Cachia took on his first superintendent position at Bexley Golf Club where he was able to implement what he had learned from past experiences and studies to make significant improvements. He also took on a role as a sessional teacher at Ryde TAFE teaching Certificate III and IV. In 2017 Cachia returned to Ryde-Parramatta as the assistant superintendent under course superintendent Shaun Probert.



The Lakes assistant superintendent Simon Blagg played an all-encompassing role in preparations for the 2018 Emirates Australian Open



BRENDAN DOOLEY

**Assistant superintendent
Peppers The Sands Torquay,
Vic**

A love for the game of golf inspired Dooley to turn that into a career in turf management. Having played the game since he was 14, Dooley took on an apprenticeship at Yarra Golf Club in 2008. After 4.5 years there he moved across to Keysborough GC where he was promoted to course foreman. Five years later Dooley was making a lifestyle change and moving to Torquay where he was appointed as assistant superintendent at The Sands, the highlight of his 12-year career to date.



NICHOLAS DOUGLAS

**Assistant superintendent
Spring Valley GC, Vic**

Douglas kicked off his career in late 2007 as an apprentice at Sorrento Golf Club under superintendent Shane Greenhill. During that time the club resurfaced all greens with A1 bentgrass, giving Douglas valuable exposure to major project work early in his career. He continued working at Sorrento as a qualified tradesman until early 2015 when he moved to Spring Valley Golf Club under David Phillips. He was promoted to course foreman shortly afterwards, his first taste in a management role.

In 2017, Douglas took the opportunity to see a different side of the industry, taking on a role as a sales representative at a well-known golf course hardware company. While learning a lot in that role, he missed the hands-on nature of golf course management and in 2018

joined the crew at Victoria Golf Club. Under superintendent Steven Newell, Douglas was part of the team that undertook the complete reconstruction of Victoria's greens, tees and surrounds. With that project nearing its completion, Douglas reprised his old role as foreman at Spring Valley before being elevated to assistant there last September.



TOM GRIFFIN

**Senior greenkeeper
Queanbeyan GC, ACT**

Griffin's introduction to the turf industry came as a competitive lawn bowler with Queanbeyan Bowls Club. His prowess on the rink led to him being offered an apprenticeship when he was 17.

Soon after completing his apprenticeship, he moved to Scotland to take part in a greenkeeping internship at St. Andrews Links, an incredible introduction to golf course maintenance. Griffin learnt a lot from the mentorship and various educational events, as well as being involved with preparations for the Alfred Dunhill Links tournament.

The following two years were spent travelling internationally and gaining valuable experience as a seasonal greenkeeper. Among the highlights during that period included working at Jacks Point, NZ and being part of the team at Wimbledon in 2018. Since returning to Australia, Griffin has taken on a role at Queanbeyan Golf Club and is undertaking his Diploma in Sports Turf Management.



STEPHEN HUDSON

**Senior greenkeeper
Headland Golf Club, Qld**

Hailing from Liverpool, England, Hudson developed a passion for golf as a teenager, starting off as a casual in a pro-shop before progressing to golf professional at a local golf course in the northwest of England. At the age of 23 he went travelling and explored the east coast of Australia and upon his return to the UK enrolled to study greenkeeping and began working in the industry. In 2012, Hudson was fortunate enough to be offered a position at Kooyonga Golf Club in Adelaide where he worked for six years. In October 2018 he moved to the Sunshine Coast, taking on a role at Headland Golf Club under Ben Tilley, a past superintendent mentor of the ASTMA FTMI.



JASON LEMIRE

**Greenkeeper
Tara Iiti, NZ**

One of two NZGCSA candidates in this year's FTMI intake, Lemire is originally from Canada. After obtaining a degree in sport management in Toronto, he embarked on career in sports turf

management through a job at one of the city's private clubs. Quickly falling in love with this side of the industry, he went on to become the irrigation technician at Islington Golf Club. After nearly three years there, during which time he was involved in projects to rebuild greens and bunkers, his partner was offered a job opportunity in New Zealand.

Arriving there over three years ago, Lemire hasn't looked back and initially secured a role at Royal Wellington Golf Club under one of the most experienced superintendents in the business, John Spraggs. After 18 months there, he then headed to Kauri Cliffs before landing a greenkeeping role at the incredible new Tom Doak creation, Tara Iiti, about an hour and a half north of Auckland.



RYAN MCNAMARA

**Assistant superintendent
Growling Frog GC, Vic**

Having been to university and beginning his working life in an office, McNamara quickly discovered it wasn't the career path for him. Opting to pursue turf management instead, he joined the crew at Eastern Golf Club and was lucky enough to be under the tutelage of superintendent Clayton Howell during the construction and grow-in of the club's new Yarra Valley-based course.

After four years and many great learning experiences there, McNamara moved to Rosanna Golf Club as foreman under superintendent Dean Bailey, soon rising to be 3IC. Most recently he was appointed as the assistant superintendent at Growling Frog Golf Club which is maintained by Programmed Turnpoint.

"Having always had a passion for the game of golf, a career in turf management always held a fascination for me," says

McNamara. "Once I had started in the industry, the mentoring and leadership I experienced, especially from Clayton and Dean, immediately pushed me to want to progress as far as I could through the industry. Being involved in the construction and grow-in of the new Eastern GC facility was a highlight for me. The whole process taught me many things that I may have not otherwise had the opportunity to experience."



DAVID NIELSEN

**Senior greenkeeper
The National GC, Vic**

The second of this year's ex-pat Canadians, Nielsen's introduction to the industry came when he was involved in the construction of Sandpiper Golf Club in his home city of Vancouver. Following construction, he joined the maintenance crew which eventually turned into an apprenticeship.

Seasonal employment, cold winters and the travel bug led Nielsen to Australia where he has subsequently had a range of experiences including landscape gardening, working on sports ovals, teaching horticulture, managing a 9-hole course and now working at The National Golf Club on Victoria's Mornington Peninsula. Having already attained his Certificate III, Nielsen recently completed the Diploma of Sports Turf Management through Holmesglen TAFE.

Nielsen says that he has an ever-increasing passion for golf course presentation and management practices, with the industry providing him numerous highlights, the most recent being part of the volunteer corps for the 2019 Presidents Cup at Royal Melbourne. Likewise, being employed at The National Golf Club is exceeding all his career expectations: "Working with professional management

teams, preparing immaculate turfgrass playing surfaces to the highest levels, course construction, major turf renovations and working at a world class golf destination is such a privilege."



DANIEL O'CONNOR

**Senior greenkeeper
The Hills, NZ**

The second of two NZGCSA representatives for 2020,

O'Connor initially began his apprenticeship in 2013 at Greenacres Country Club, before finishing it at his home course, Invercargill Golf Club, under superintendent Craig Tinker. During that time the club hosted two SBS Invitationals and a New Zealand Teams Stroke Play (Toro) event with just two greenkeepers and a handful of volunteers.

Upon attaining his Level 4 qualification, O'Connor put his name forward for The Ohio Program and was placed at Pebble Beach Golf Links starting April 2017. He also volunteered at Quail Hollow for the 2017 PGA Championship. After 12 months in the US, O'Connor returned home and took on a senior greenkeeper role at The Hills in Arrowtown. In June 2019 he returned to Pebble Beach for two weeks to volunteer at the US Open.



DANIEL RYAN

**Senior greenkeeper
Royal Sydney GC, NSW**

Playing lawn bowls for high school sport was Ryan's first introduction to the industry. As he became curious about the how and why of bowling green maintenance and preparation for play, he approached Port Macquarie Panthers Bowls Club for weekend casual work while completing his HSC.



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In 2008, Ryan was offered a highly sought-after apprenticeship with the Sydney Cricket Sports Ground Trust and over the course of the next 10 years gradually worked his way up to become an assistant curator. During this time, he was involved in many major events and career highlights, including the 2014 Major League Baseball Series opener, 2015 men's Cricket World Cup and the Rice vs Stanford NCAA College Football match. In his daily role Ryan was responsible for preparing surfaces for the NRL, ARU, FFA, FIFA, Cricket NSW, Cricket Australia and AFL across both the Sydney Cricket Ground and the Sydney Football Stadium (formerly Allianz Stadium).

In March of 2018, Ryan proactively sought a new position at The Royal Sydney Golf Club as a member of the Northern Turf Care team. This role is responsible for the presentation, maintenance and planning of all Northern Areas turf surfaces which consist of 11 lawn tennis courts, seven synthetic tennis courts, two bowling greens, two croquet lawns and several recreation lawns. Since his time at Royal Sydney he has successfully completed the Diploma of Sports Turf Management and most recently was promoted to the role of senior greenkeeper.



RYAN SMOOKER
Assistant superintendent
North Adelaide GC, SA

Smooker's interest in turf management was garnered from his days as a junior golfer where he played a number of courses around South Australia. Starting an apprenticeship in 2009 at the North Adelaide Golf Course, that progressed into a full-time greenkeeping role after completion. At the end of his apprenticeship Smooker was adjudged the South Australian Graduate

of the Year and contested the national final at the 2012 Australian Turfgrass Conference. Smooker has now been at North Adelaide for over 10 years and is the current assistant superintendent.



ADAM SPARGO
Senior Groundsman
University of Tasmania
Stadium, Tas

Tasmania's sole representative in 2020, Spargo began his turf management career in 2001 at Melbourne's Riversdale Golf Club, progressing to the role of foreman and then assistant superintendent. During this time he was fortunate enough to join the course staff at Huntingdale Golf Club for a number of Australian Masters. After completion of his



Koorlingal Golf Club assistant superintendent Mark Bateman is one of a number of 2020 FTMI participants that were involved in last December's Presidents Cup at Royal Melbourne

Diploma, Spargo headed Stateside to take on a placement at Oak Hill Country Club for a PGA Tour event through The Ohio Program, making a number of lifelong contacts and friends within the industry along the way.

In 2011, Spargo took on his first superintendent role at Melbourne's Northern Golf Club until his wife's work saw them moving to Tasmania. After a brief stint at Launceston Golf Club, Spargo then moved to his current role at University of Tasmania Stadium, Launceston's premier cricket and AFL venue. Spargo says the switch from golf to sports fields has been a refreshing change and enabled him to continue pursuing his true passion for the turf industry and increase his skill set and knowledge in differing aspects of turf management.



HAYDEN WESTWOOD
Foreman, West Course
Royal Melbourne GC, Vic

After finishing high school, Westwood's intention was to

undertake a Diploma of Surveying. However, at the insistence of his uncle, who worked for David Golf, he decided to give greenkeeping a crack. He successfully applied for an apprenticeship at Royal Melbourne Golf Club and after a period of six years has now risen to be foreman on the famed West Course.

During his first year at Royal Melbourne, Westwood was lucky enough to experience both the Australian Masters and World Cup of Golf tournaments back-to-back. He went on to complete a Certificate III in Construction Pathways and Civil Construction (Plant Operations). In that same year, he was also involved in preparations for the Asia-Pacific Amateur Championship and in 2015 the Women's Australian Open.

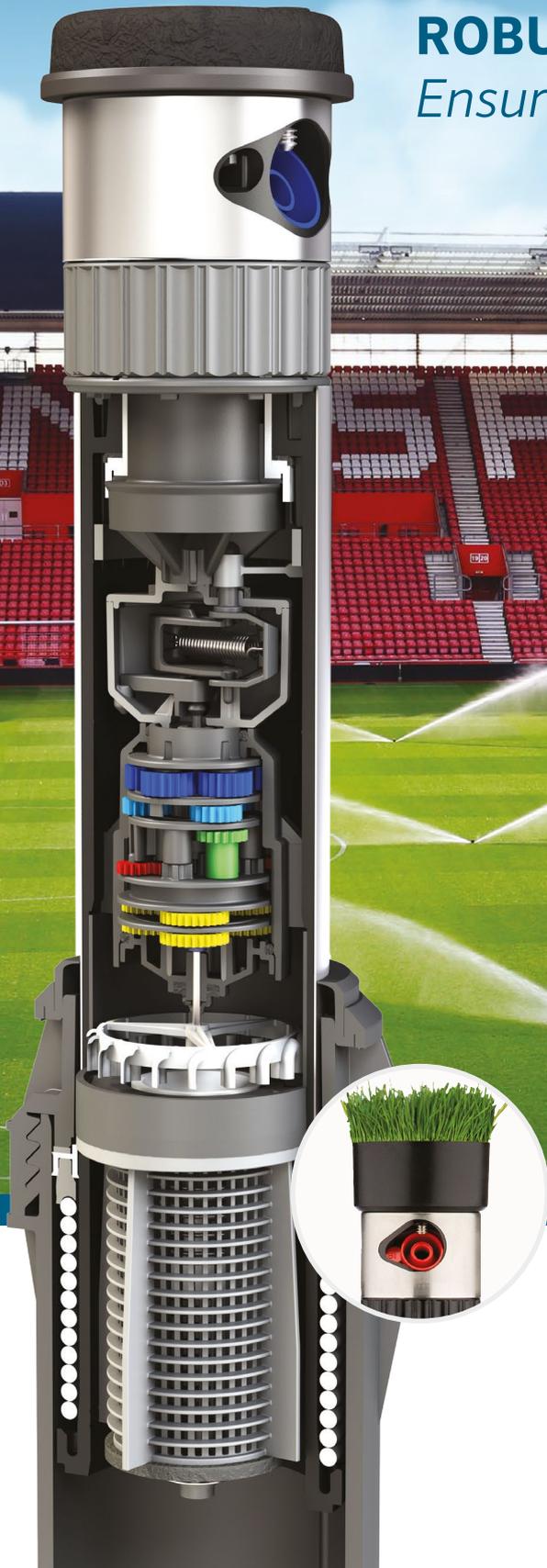
In 2017 Westwood completed his Diploma of Sports Turf Management and the following year was given the opportunity to be a part of the 2018 US Open agronomy team. His promotion to West Course foreman came last February and he played a lead role managing the fescue surrounds team for the recent Presidents Cup. 🏌️



Royal Melbourne foreman Hayden Westwood headed the team preparing the immaculate fine fescue surrounds of the Composite Course at the recent Presidents Cup

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PETER McMAUGH AM



Measuring up

Current turfgrass evaluation trials give very little information of the underground morphology for assessing varietal differences in root extension, root volume and rhizome development. As turf doyen Peter McMaugh writes, by growing grasses in polystyrene boxes it is very easy to see immediately the total expression of the gene pool under the climatic conditions where the trials take place.

Left: Growing grasses out in polystyrene boxes can add much-needed information on varietal difference to that gained from field trial plots

Below: The true potential of a new accession can only be determined when the grass is left to express its innate genetic ability with as little interference and help as possible



When I wear my plant breeder's hat, I am always on the lookout for anything that can make my job of evaluating the latest grass accessions into my collection easier.

A few years ago I began to use discarded polystyrene fruit and vegetable boxes to take accessions from small pots to the quantity of material I needed to establish field plots for further evaluation. This was purely a pragmatic decision for me because they are lightweight, easy to handle and, if you scrounge around enough, free. I look for the ones that already have air or drainage holes moulded into them to save me the trouble of having to drill those.

Sometimes the ventilation slots in these boxes are large enough to be a nuisance for the leakage of growing medium out of the container, so I line them with newspaper before filling with the growing medium. My choice of growing medium varies slightly depending on the species that I am growing out. My normal mix is 50 per cent Scotts Professional potting mix and 50 per cent of a USGA-compliant sand. If I am planting zoysias, I will increase the sand content. For buffalos, I increase the organic content to keep a little more moisture in the mix.

The box sizes vary a little, but the indicative size I use is 500mm (length) x 330mm (width) and 200mm (height). Sometimes the boxes available are a little smaller overall. Recently I have downsized the boxes to small lunch box size and this is working just as well as the large boxes.

It took me one growing season to begin to realise the overall value of this system as an

evaluation tool. Over the course of a calendar year I may collect hundreds of grass clones that I plant out as single nodes into small pots. These I put into 1m x 1m metal trays which have a 20mm water layer in the bottom to keep the maintenance demand low.

As these grasses grow out, you quickly get the feel for what they offer. You can select what looks like a short internode dwarf grass in a park or paddock only to see it develop into a long, straggly 'Jack in the Beanstalk' type very quickly. I generally avoid clipping these grasses early because I want to see how their runners develop lateral branches. If they do branch laterally early, they survive the first cull. If they are on the cull table, I check out whether or not they show any inking for rhizome development. If they do have some rhizome show, they too get to the second stage, but very few do.

It is very important to understand the reasoning behind this system and the following story illustrates this well. Many years ago I was visiting with my late friend Dr Arden Baltensperger at New Mexico State University in Las Cruces. At the time, he had a PhD student Charlie Rodgers (now Dr Rodgers) whose PhD thesis was built around evaluating the suitability of seedling couchgrasses from Arden's breeding programme for their propensity to tiller and therefore show promise as to future turf density in the field. Charlie had hundreds of these growing in tubes, which he was clipping when they got to a predetermined height (I can't remember exactly what that was, but let's say it was 50mm).

Arden and Charlie were very proud of this experiment and they asked me to look at it and to critique it. I asked Charlie what data exactly he thought he was collecting? He told me he was evaluating the innate ability (genetically controlled) of the plant to spread laterally. In other words, he thought he was looking for evidence of low apical dominance. So, I walked him through how real apical dominance is expressed in a developing plant and how his clipping programme was totally nullifying the expression of this character.

His face fell and he became quite agitated and said, 'Shit, there goes my PhD!'. We discussed things a bit further and decided that all was not lost if he changed the title of his PhD thesis to 'Plant density response to clipping in *C. dactylon* selections'. Which he did, to save the day. The moral of this story is twofold...

- You need to understand completely what you are trying to measure. If you don't have a very thorough understanding of



the whole of the plant's behaviour, you can't make sensible decisions about how or what to measure, so that you can do successful selective evaluation of the potential that the clone has for future breeding.

- You can only see this potential when you leave the grass to express its innate genetic ability with as little interference and with as little help as you can give it.

The following is what I look at and for when evaluating the progress of a clonal selection;

- How quickly or slowly it spreads laterally;
- Whether this is related directly to internode length only or to inherent vigour;
- How tall they grow unmown;
- Whether or not the runners branch laterally early or take a long time to develop;
- Their ability to grow efficiently at low fertiliser rates;
- Whether they have weak or strong rhizome development;
- Their inherent natural colour at low fertiliser rates;
- The length and shape of their leaves;
- How thick or thin their stems (stolons and rhizomes) are;
- Their response to low temperatures;
- Their response to heat stress;
- Wet weather tolerance;
- Pest tolerance; and
- How many laterals the clone develops per node.

These are all part of 'Phase 1' of the evaluation process and it is important to understand what I learn from these observations...

Lateral spread rate: This tells us whether the grass will give a good crop yield or not, and also whether it will repair quickly after wear in the real world. This is just one element of the repair equation but it is an important one.

Internode length: This tells us several things. If the internode is long, the turf will be quite open unless there is a high degree of lateral branching early. The longer the internode the less dense the root volume will be. The greater the root density the more successful it will be resisting tearing out under severe traffic (e.g. horses in polo, scrummaging in rugby).

Height (unmown): This is a very clear indicator of the future maintenance demands especially in terms of mowing frequency and often, but not always, of thatch accumulation. Another aspect of height (unmown) is the suitability for a grass to be used on roadsides. Excessive height and thatch make for a lot of maintenance as well as being a fire hazard. This is also preeminent in choosing grasses for airports. They want low mowing, low maintenance, low fertiliser, with low water



There are a multitude of characteristics a plant breeder will evaluate and measure when determining the suitability of a new variety. Among them are lateral spread, internode length, rhizome development, leaf shape and size, as well as responses to climatic conditions, fertiliser and pest activity

demand and any other feature which will keep birds out of the equation. When this is looked at in conjunction with overall density it also tells you how much thatch the grass will accumulate.

Lateral branching: Early lateral branching increases the sod strength at harvest and the wear and repair capacity under use.

Fertiliser response: Vigorous growth under low nutrient says it will cost you a lot less to produce and will minimise the length of your crop cycle.

Rhizome development: This is one of the most important characters you can measure. Strong rhizome development means quick recovery from extreme wear, high crop yield because of quick turnaround and high drought resistance. The importance of the basic research of Dr Chris Lambrides (University of Queensland) in this area cannot be stressed enough. However, there is also another aspect of this phenomenon and that is the depth at which the rhizomes develop. Too deep and they don't contribute to sod strength.

Colour: Strong green colour is an important sales aspect.

Leaf shape and size: This will determine whether the turf looks coarse and rough or whether it will have a finer more attractive appearance. Assessment of density at this stage is not a complete exercise and does need further field evaluation. From some points of view you can't have a grass that is too dense because the greater the density the greater the capacity to carry wear.

However, when it comes to the need to oversow a couchgrass with rye to assist winter wear, extreme density can make the oversowing process a bit of a lucky dip. All of these factors need to be taken into account.

Stem thickness: This is a good indicator of overall resistance to wear and sod handling strength, when it is combined with good lateral branching and vigorous growth.

Temperature response: 'Early to bed' means poor winter appearance and generally lower yield. It is also generally related to late green up. Ability to tolerate high heat stress is all about water use. The less water it needs to tolerate heat stress the better the grass will fare under use.

Wet weather tolerance: If the gene pool of a grass selected out of a naturally very dry summer climate is transferred into a hot wet summer climate, the grasses containing the dry performance genes can often collapse under serious fungal attack for which they have no resistance. You can also have grasses which are too dense for success in wet tropical climates where they will rot out underneath because they never get a chance to dry out.

Pest tolerance: High susceptibility to some pests, especially mites, mealy bugs, nematodes and root rot fungi, make varieties totally unsuited for long-term use.

Laterals per node: This is probably the ultimate character that gives a variety density. In couchgrasses, each node has the potential to produce four lateral shoots yet it rarely does. When you see it, value it highly. 🙌



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Dead... but not buried

*ATM expert columnist John Neylan looks at herbicide efficacy with multi-tillered *Poa annua* plants and the keys to ensuring effective control.*

Over the past four years I have been involved in several herbicide trials with the Victorian Golf Course Superintendents Association (VGCSA) exploring different herbicide combinations to control herbicide tolerant and resistant *Poa annua*.

During this time there have been numerous discussions with several golf course superintendents regarding why a herbicide has an initial effect to the point where an individual plant looks dead, but then over time there appears to be full recovery. Then the next question is whether the plant recovered, were there new germinations or a combination of both. Observations during the winter 2019 glyphosate trials indicated that it was both.

*One particular aspect of *Poa annua* plants is the multi-tillering that occurs. These tillers are easily pulled apart and raise the question as to whether it is a single plant (opposite photo) or many individual plants that are loosely connected (photo below)*



One particular aspect of *Poa annua* plants is the multi-tillering that occurs. These tillers are easily pulled apart and raise the question as to whether it is a single plant (see main photo opposite) or many individual plants that are loosely connected (see photo below). When these plants are observed in the field after being treated with a herbicide application, it is common to observe plants that have the innermost leaves/tillers dying and the outermost leaves/tillers surviving (see photo top page 54).

Data from all of the VGCSA herbicide trials has reinforced the need to make a follow up application of herbicide to ensure complete control of the plant. Some of the questions that come out of this work are;

- Do the upper tillers protect the lower tillers from the herbicide; and
- Is the herbicide effectively translocated between tillers if some tillers don't receive any herbicide.

Clearly, there are some complex physiological processes involving the plant and the mode of action of the herbicide. The main interest is around the systemic herbicides and whether the plant structure is affecting the uptake of the herbicide and therefore reducing the level of control. To investigate this hypothesis, a small pot trial was established and is detailed below.

TRIAL METHOD

While the trial was a simple 'look see' to explore what may be occurring, it was replicated so that some statistical analysis could be undertaken. The initial purpose was to at least see whether there is any relationship between the structure of the plant and herbicide efficacy.



The trial involved collecting *Poa annua* plants from a golf course fairway. A total of 30 individual plants were collected, planted into pots and then allowed to become well established before being subjected to the herbicide treatment. The plants were about 3-4cm in diameter and had at least 10 tillers.

The plants were selected in close proximity to each other and with similar characteristics. However, given the nature of *Poa annua* there is the probability that there will be plants that are not related and possibly react differently to a herbicide.

Of the 30 plants collected, the tiller numbers varied from 10-24 tillers with an average of 19 tillers per plant. For the trials, the plants with the most tiller numbers were used and evenly distributed across the treatments.

A considerable period of time was spent reviewing the best herbicide to test the theory. It was decided to use glyphosate (a.i. 360g/L) at 1L product/ha because of;

- The target site of activity;
- The ability of the herbicide to translocate in plants;
- The inability of plants to rapidly detoxify the herbicide; and
- The site where the plants were collected had not been subjected to glyphosate applications which therefore minimised the chances of resistance.

Glyphosate was also selected because in plants it disrupts the shikimic acid pathway that is important in the formation of aromatic amino acids that are vital for protein synthesis and plant growth (Shaner, 2006). Because glyphosate is absorbed across the leaves and stems of plants and is translocated throughout the plant and concentrates in the meristem tissue, it was again considered to be a good choice for testing the theory.

The treatments were;

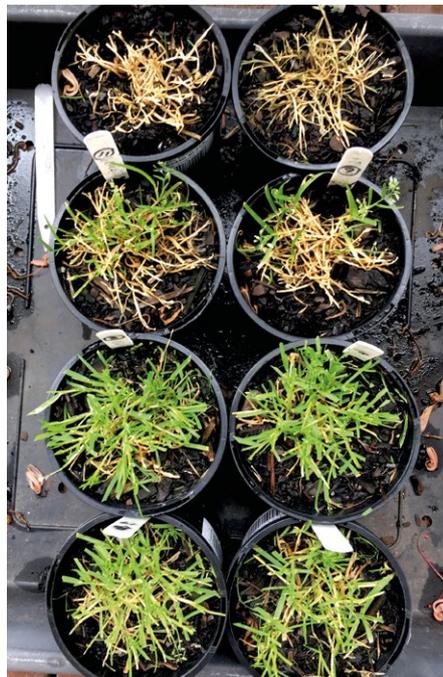
- Applying the herbicide to the entire plant (100% treatment – 100T);
- Applying herbicide to half of the plant (50% treatment – 50T);
- Herbicide applied to a single leaf/tiller (ST); and
- Untreated control (UTC).

The herbicide was applied to the 100% and 50% treatments using a pressurised sprayer with an XR TeeJet Visiflo Standard Flat Fan nozzle with a delivery rate of 0.58L/minute. The water volume applied was 400L/ha. With the 50% treatment, half the plant was covered prior to applying the herbicide. The single tiller treatment was applied using a small syringe to apply about 0.5ml to a single tiller. There were six replicates for each treatment.

Following the herbicide treatments, the plants were assessed every seven days for the proportion of the plant that was dead. An NDVI meter was also used to provide an assessment of plant colour.



Partial herbicide control on a multi-tillered *Poa annua* plant



Results at 35 days after treatment. Top row – 100 per cent treatment; 2nd row – 50 per cent treatment; 3rd row – single tiller treatment; 4th row – control

RESULTS % POA ANNUA CONTROL

The results are detailed in Table 1 below. At 21 days after treatment (DAT), the percent control for the 100T treatment was significantly greater than all other treatments, with the 50T treatment being greater than the single tiller and untreated control.

At 28DAT there was no significant difference between the 100T and 50T treatments and provided an indication that the glyphosate was being translocated throughout the 50T treated plants. At 35DAT, the 50T treatment was exhibiting signs of recovery and was significantly less affected than the 100T treatment (see photo below). This trend continued through to 49DAT with the single tiller treatment and the UTC being unaffected.

The NDVI meter was used to assess turf colour/health and the results are detailed in Figure 1 (opposite page). At 21DAT the results for the NDVI reflect the results for % control. That is, there was no significant difference between the 100T and 50T treatments and these treatments had a significantly lower colour compared to the single tiller treatment and the UTC. At 35DAT, the same trend continued with the 100T treatment having significantly less colour than the 50T treatment.

POA ANNUA GERMINATION

With any trial there is the unexpected result or observation that provides additional food for thought. With the 100T and 50T treatments there was the emergence of *Poa annua* seedlings as the plant deteriorated (see photo top opposite page). This was most obvious on the 100T treatment and was first noted at 15DAT.

All treatments exhibited some seedlings, however, the seedlings were most prominent where there was strong control and more open space for the seedlings to develop. At 64DAT there was a good grass cover in the 100T (see secondary photo opposite page) and 50T treatments due to the seedlings in the 100T treatment and a combination of plant recovery and seedlings in the 50T treatment.

CONCLUSION

The results from this trial indicate that for effective control on multi-tillered *Poa annua* plants requires the herbicide to make contact with most of the plant. Any shielded tillers/leaves provide an opportunity for plants to recover from the initial herbicide application. As noted previously, follow up herbicide applications are often required if effective control is to be achieved.

In a discussion with Dr Peter Boutsalis (Plant Science Consulting) at the AGCSA conference in Brisbane 2019, his suggestion

TABLE 1: % POA ANNUA CONTROL AFTER TREATMENT

Treatment	% Control			
	21DAT*	28DAT	35DAT	49DAT
100% treated	80.8 ^a	98 ^a	99.8 ^a	99.8 ^a
50% treated	53.3 ^b	91 ^a	67.3 ^b	71.7 ^b
Single tiller treated	0.0 ^c	2 ^b	1.7 ^c	0.0 ^c
UTC	0.0 ^c	0 ^b	0.0 ^c	0.0 ^c
LSD (P<0.05)	11.6	11.2	16.8	12.3

*DAT = days after treatment; Averages with the same letter are not significantly different



Seedlings in the 100 per cent treatment at 35 days after treatment. With the 100T and 50T treatments there was the emergence of *Poa annua* seedlings as the plant deteriorated, highlighting the importance of including a pre-emergent in with any post-emergent application

to improving herbicide efficacy on multi-tillered plants was to use adjuvants when applying post-emergent herbicides. The purpose of the adjuvant is to provide a more even spread of the herbicide and improved herbicide/plant contact. This concept has been trialled using glyphosate on dormant couch fairways and it appears that an adjuvant will improve herbicide efficacy but requires further research.

The germination of *Poa annua* was not particularly surprising, however, the number of seedlings was. The plants, when collected, had very little soil attached and again highlights the prolific seed production of *Poa annua*, with most of this seed very close to the parent plant.

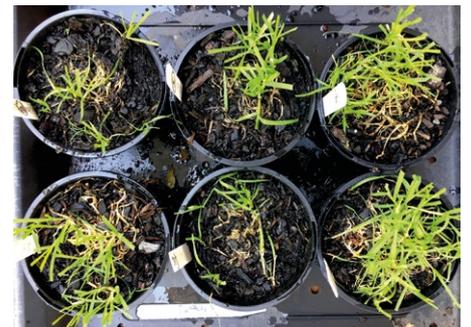
It would appear that the germination is in response to increased light with no seedlings noted until the plant had deteriorated and there was a reduced plant biomass. The plants were in pots for about six weeks before the herbicide was applied and no seedlings emerged during this period. This again reinforces the influence of light on germination.

The research of Ohadi et. al. (2010) tested the effects of light intensity and exposure duration on seed germination of *Poa annua*. The research demonstrated that light stimulated the germination of *Poa annua*. According to the model they developed, increasing light intensity from 0 (full darkness) to 1000 μ mol/m²/s increased the germination of *Poa annua* from 0 per cent to 35 per cent.

Both from the research undertaken and field observations, it is a reasonable conclusion that once the parent plant is killed, the seeds are exposed to increased light and, providing adequate soil moisture, will germinate.

The germination that occurs means that a key to any successful post-emergent herbicide control programme is the need to incorporate a pre-emergent herbicide as well. While this is already widely practiced, the results confirm that it is essential.

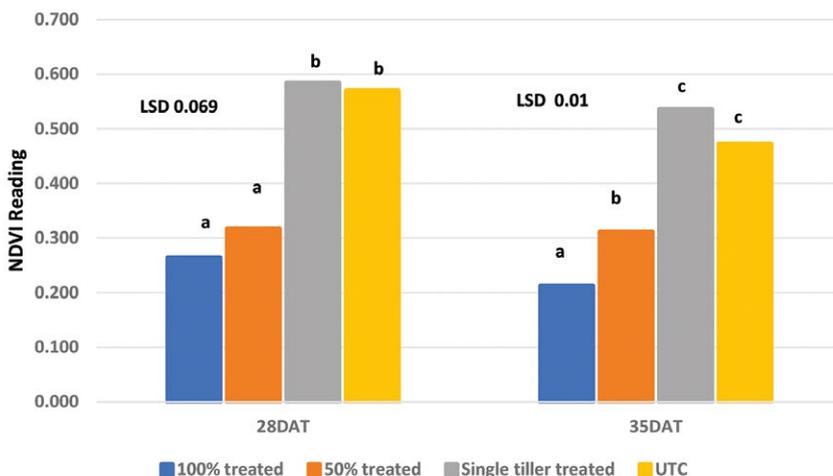
While the pot trial is relatively simple and only used a single herbicide, it reinforces several keys to a successful *Poa annua* control programme;



100 per cent treatment at 64 days after treatment – note the development of the seedlings

- Incorporation of a pre-emergent herbicide into the post-emergent programme is essential;
- Follow up applications of post-emergent herbicides are required for effective control;
- The use of adjuvants is worth considering to improve herbicide/plant contact. This aspect requires further investigation.

Figure 1: NDVI readings at 28 and 35 DAT



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ACKNOWLEDGEMENTS

John Neylan is a turfgrass agronomist with Melbourne-based company Sporteng. In 2014 he was bestowed the AGCSA Distinguished Service Award for his services to the Australian turf industry. 🙏

Left: Figure 1. NDVI readings taken at 28 and 35 days after herbicide treatment



The GCSAWA-driven Golf Course Water Wise Program has been developed as part of the state's action plan to address water management issues in a drying climate

A wise move

In 2013, the Water Wise Golf Course Program kicked off in Western Australia, a joint initiative between the Golf Course Superintendents Association of WA (GCSAWA) and the WA Government's Department of Water and Environmental Regulation.

Facilitated by the golf course irrigation sector, the programme has developed a set of guidelines and targets aimed at achieving long-term water use efficiency to support and promote best irrigation practices. By doing so, the programme aims to provide security to the golf industry and provide support to participants to adapt to a drying climate.

Led by the GCSAWA, the programme has been included within the Water Wise Perth Action Plan, an initiative by the WA Government and part of its coordinated

Starting this edition, ATM welcomes WA-based turf expert John Forrest to its panel of regular columnists. In this opening article, Forrest looks at the Water Wise Golf Course Program which forms part of Perth's strategy plan to address increasing concerns of water use and improve efficiency.

response to the impacts of climate change that sets the direction for transitioning Perth to a leading waterwise city by 2030.

The southwest of WA has had a 15 per cent decline in average annual rainfall since the mid-1970s due to climate change, with 2019 being the warmest year and second driest on record, receiving 49 per cent below average rainfall across the state.

With pressures associated with climate change, coupled with anticipated population growth to top 3.5 million in the next 30 years, careful consideration and planning for the future of WA's golf industry needs to be undertaken now. Improved irrigation efficiency practice is a big part of that planning for the industry's security.

With this in mind, Water Wise Golf Course Program co-ordinators are currently

promoting increased uptake of the programme to GCSAWA members through subsidised joining fees offered by the Department of Water and Environmental Regulation. This also includes new web-based services that use guidance material tailored for best practice golf course irrigation that aligns with criteria under three levels of accreditation for programme participants.

Once the tasks for accreditation under one of three levels – bronze, silver and gold – has been completed and regulatory conditions are demonstrated, participants receive certification recognised by both the industry and government. This is important as certification requires irrigation operators to assess, develop and, where necessary, make changes to the irrigation system based on water budgeting, while meeting their water licence conditions and entitlement.

By gaining accreditation under each level, each participant delves deeper into irrigation efficiency measures and will start to look at contingency planning and alternative water supplies for irrigation where possible.

Currently the programme is aimed at the superintendents through the GCSAWA as the irrigation operators, however, certification under the programme benefits the associated club and its members as a whole. For this reason, the programme is now engaging with golf club managers and members to garner support. It believes the consequence of a 'business as usual' approach, given the industry relies on water, should not be taken lightly, as the support for waterwise

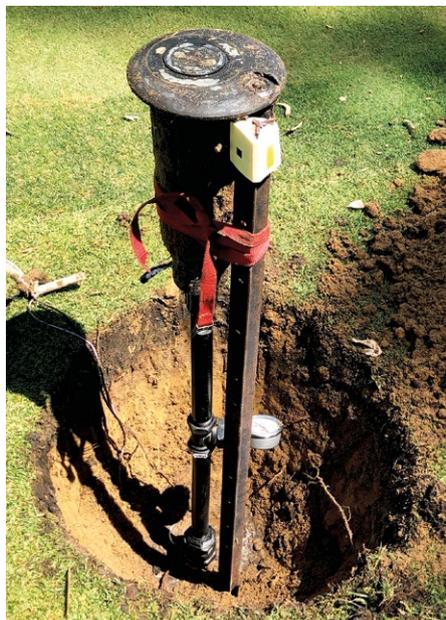
As part of the Golf Course Water Wise Program golf courses have to meet certain criteria regarding operator competence, compliance and awareness and measuring and analysing water use

programmes and initiatives requires across the board recognition by the industry to make it a success.

WATER WISE PROGRAM SPARK

A drying climate in south Western Australia impacts the golf course industry with winter aquifer recharge being a dire component for the sustainability of water use on golf courses. In past years Perth has relied on dams for its water supply. Now desalination and groundwater make up the main source of water. Golf courses in the metropolitan area rely on ground water and all are metered with an annual water allocation that must be kept.

Increasing temperatures result in increasing evaporation rates. Plant water use is directly affected by evaporation rates as plant water use is reached by multiplying the



INTRODUCING JOHN FORREST...



Australian Turfgrass Management is delighted to welcome WA turf legend John Forrest as a regular contributor starting from this edition.

Forrest needs little introduction to ATM readers from the West, having carved a turf management career that has spanned more than 30 years.

Originally from New Zealand, Forrest has risen to be one of the most recognised and respected figures in golf and sports turf management in WA. In 2018 he received Golf WA's highest honour – the Industry Recognition Award – and at last year's GCSAWA Margaret River state conference was bestowed life membership of the association. John was also featured in a book produced by the WA Department of Sport and Recreation called 'Grassroots: The secret life of sport and recreation' which featured 40 West Australians who were considered the unsung heroes behind the sporting industry.

John currently works as a full-time horticultural consultant where he deals with sports turf management issues for local governments, golf courses, stadiums and contractors in a broad range of areas. Prior to that he spent 24 years as a sports turf lecturer at TAFE, watching many of the state's students grow and develop into leading superintendents and sports turf managers.

John rates teaching apprentices as one of the real highlights of his time as an educator, while in later years teaching the Certificate IV and Diploma research units gave him exposure to a wide range of projects. Research has long been a passion of Forrest's, something which he honed after enrolling in the Masters degrees at The University of Sydney which he finished in 2002.

Over the past two years John has become the Western Australian broadacre fertiliser spreader auditor for Fertiliser Australia and has also played a significant role in the development of the innovative Golf Course Water Wise Program that forms part of the state's action plan to address water management issues in a drying climate.

Golf is an unbridled passion for Forrest and being the course director at Hartfield Country Club supplies that fix for involvement at the grass roots level.



evaporation rate by the crop factor. The crop factor depends on the standard of the turf surface required and the characteristics of the plant species being grown.

Daily water use can be calculated by using the ET_c (crop factor method) multiplied by evaporation (mm). The crop factor for turf typically ranges from 50 per cent for minimum cover up to 70 per cent or more for a high-quality surface that can tolerate wear. For example, 10mm of daily evaporation when using a 70 per cent crop factor equates to $10 \times 0.7 = 7\text{mm}$ or 7L of water required for replacement per square metre of turf.

In Perth, December has a long-term average of 10.1mm of daily evaporation. In December 2019, from the 12th to the 18th, the average daily evaporation rate was 15.2mm, putting pressure on turf managers to manage their water budgets early in the summer period. For this short period, a 50 per cent increase in evaporation rate was experienced and is rarely seen. Hopefully this exception does not become the norm in years to come.

From a turf management perspective, the long-term sustainability of the industry relies on efficient water use. As part of this sustainability effort, a team approach is required and understanding by all involved is a must. Players, managers, committees and boards



have to support the turf managers in making decisions on effective water use, which may include looking at how reducing the irrigated areas can be achieved.

Other sectors of the industry, including irrigation designers and golf course architects, need to work together on more than just the golfing experience. Course designs play a massive role in preserving water as steep

slopes make it difficult to retain water. Greens with humps and hollows make it difficult for the water to infiltrate evenly. Entrance and exit points are vital as any point where traffic is concentrated leads to more compaction, less infiltration and less water retention, especially on high-use golf courses.

Irrigation designers and golf course architects collaborating and working together could certainly establish irrigation patterns that are more effective in reducing the occurrence of over-watering certain areas. Greens, tees and fairway size and shape could be developed to fit sprinkler patterns more effectively instead of trying to fit the sprinklers to a design.

Golfer expectations may also have to be moderated if drying patterns continue putting pressure on reducing water supplies.

There are many examples of improvements in water management but if rainfall keeps reducing, more improvements will be required and the Golf Course Water Wise Program is one of those tools. By taking action and gaining accreditation under the programme, participants are sending a clear message to the community that they are taking action and promoting the security for their club, the industry and continued enjoyment for future generations. ♣

WATER WISE GOLF COURSE PROGRAM – BRONZE LEVEL CRITERIA

There are three levels as part of the Water Wise Golf Course Program – Gold, Silver and Bronze. The aim is to have 22 golf courses in Perth signed up to the programme, with two already achieving ‘Gold’ status – Lake Karrinyup GC and Wembley Golf Complex.

The starting point for participants is ‘Bronze’ level and there is a support team in place to assist clubs completing this section. Once achieved, a monitoring system is in place to ensure the club continues to meet the criteria and to work towards greater efficiencies. To attain Bronze level, participants must meet all of the criteria below.

Provide a basic level of operator competence

1. Maintain a minimum of one (1) person responsible for the irrigation system (e.g. irrigation technician, superintendent or assistant superintendent) to achieve/meet all criteria for the Bronze level Water Wise Golf Course Program for golf course irrigation basics to cover the following aspects:

- Irrigation system components;
- Soil/water/plant relationships;
- Determine plant watering needs;
- Maintenance;



- System scheduling;
- Measuring, monitoring and recording water use;
- Irrigation efficiency measures;
- Legislative requirements.

Provide a basic level of water management through compliance and awareness of responsibilities.

2. Adhere to all legislative requirements for the use of irrigation water.
3. Prepare an irrigation water efficiency plan based on the Department of Water Operational Policy 5.08 and which will include the requirement and commitment for:
 - Measuring/monitoring/recording;
 - Leak detection and repair strategy;
 - System maintenance and audit schedule.

Inspect all fixtures, appliances, pressure regulators, water lines, valves and pumps for leaks. Keep replacement and repair parts consistent and available;

- Criteria for new irrigation system design;
- Maintenance programme and defined tasks;
- Contingencies;
- Measures to be adopted to maximise water use efficiency under the existing site conditions.

Achieve accurate water measurement through knowledge of irrigated areas and water accounting.

4. Create a site map/aerial photo showing the location of each point of connection, potable water meter and backflow prevention device, bore, water meter, irrigation controller and zone valves. Provide a photograph of each bore discharge pipework and water meter installed.

5. Install a water meter to the standards detailed in the Department of Water guidelines for water meter installation (2009) on all water sources to measure both water flow rate and cumulative volume. Preferably a water meter with a flow rate output signal that can link to the controller which will help detect leaks and water use.

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Green on red

Last October, WA Turf Industry executive officer Eva Ricci spent three days visiting the Broome region where she took in some of the area's unique turf facilities.



Sir Grange zoysia was recently installed at the viewing station for the 'Stairway to the Moon' located on the Broome foreshore

Broome and far northern Western Australia certainly boast one of the more unique climates in the world. At the invitation of Derren Greenhill, owner of Broome-based Greenhills Turf Farm, I had the great pleasure of spending three days travelling around the region last October, taking the opportunity to visit a number of turf facilities and discuss some of the unique challenges faced.

It was without a doubt an industry visit that will remain a highlight for me for many years to come. Suffice to say, it was hot! Really hot. And dusty. And the flies...! It was, however, nothing short of terrific, being both inspiring, educational and heart-warming all at once.

The people in these remote areas are something to behold – 'true blue' Aussies, extending the arm of friendship and generosity, readily sharing knowledge and eager to learn something new. They're straight shooters who don't mince words and don't have time for the petulance of today's society. I met some great characters, dedicated volunteers and genuine, all round good people. Derren dedicated three full days of his time to affording me experiences I did not anticipate would be so profound! I saw pests and turf destruction that would make your hair stand on end.

One particular pest – the false spider mite (*Dolichotetranychus australianus*) – is causing terrible damage to couchgrass in public open spaces throughout the region. Unlike other spider mites, this one is visible to the naked eye and has decimated much of the public utilised turf in Broome and Derby. Control is proving extremely difficult and the local government has spent tens of thousands of dollars trying to eradicate it, mostly to no avail.

Opposite: Over the past 23 years Derren Greenhill, owner of Greenhills Turf Farm, has serviced the Broome and north west WA region in both a turf production and consultancy capacity

Right: Couchgrass mutation spotted in a public open space environment in Broome

As we visited some of the public open spaces in both townships and studying the turf, we came across four different mutations of couchgrass. Some had long bamboo-like nodes, growing in 50-degree heat in sun-baked Pindan clay pans, while others had multiple fine leaf nodes, tightly grouped together in the greens at Derby Golf Club.

The fact that these turfgrass mutations had developed in harsh circumstances successfully is fascinating and an example of survival of the fittest. A sprig of one mutation came back to Perth with me and is currently growing very successfully. I am interested to see how it pans out on the sandy soils here in the southwest.

DERBY GOLF CLUB

About 200km east of Broome in the Kimberley region is the township of Derby, home to what would certainly be one of the country's more unique golf courses. In the early 2000's, the WA Water Corporation approached the Derby community offering to sell them effluent wastewater to set up a golf course as an asset to the town.

Over a period and with water pricing negotiations stalling due to lack of community funding, eventually the Water Corporation offered the wastewater for free, as they simply

had to offload it. The Derby community took up the offer and a volunteer golf course committee was formed.

In 2003, Greenhills Turf Farm supplied the turf and assisted with the installation of turf and irrigation onsite and then managed the golf course for the following five years. The workforce for the project included local prison camp workers and illegal fishermen interned at Bungerunin Prison Camp in Derby. The irrigation system was designed by Frank Quinti (Quinti and Co Irrigation) and includes a 2-wire Toro system across the entire course.

The soil type for the course was altered compared to that which had been earlier installed at Broome Golf Club. Dune sands were used at Broome which led to algae growth issues, so in Derby local fine river sands were brought in and blended with the Pindan soils. Largely the course is Pindan based, but there are patches of marsh grey, clay sands and even some pockets of gravel.

What makes Derby Golf Club particularly unique are the magnificent stands of old growth Boab trees. Scattered throughout the course, some specimens with their unique bulbous trunks, are estimated to be 500-700 years old. Also unique is the layout. Derby comprises 11 holes and is built within and around the Derby Racecourse, with golfers having to cross the track a number of times throughout their round.

Derren still visits the site regularly in a voluntary capacity to assist with the maintenance and upkeep. The fairways have not been fertilised since installation yet remain very playable. The club has an annual budget of \$40,000 and is run completely by volunteers. Only the greens and tees are fertilised a couple of times a year and as the photos on the following pages attest the greens are in spectacular condition.



PHOTOS: EVA RICCI



Near impossible to control, false spider mites have become a significant pest in couchgrass in the Broome region, costing the local government thousands in mostly futile attempts to eradicate them

a steel bollard in concrete nearby! The irrigated turf was 36.1 degrees, concrete in full sun was 44.2, the steel bollard 59 and the dead turf 59.4! Unfortunately, there was no synthetic grass on site to measure. Nevertheless, the results were pretty astounding.

GREENHILL'S TURF FARM

The story of Greenhill's Turf Farm, the only turf farm in the region, and how it came to be is fascinating. Derren started his apprenticeship at Capel Golf Course, just south of Bunbury, in 1991 when he was 17-years-old after completing a pre-apprenticeship in horticulture at Bentley TAFE. He worked three full years at Capel under Graham Banks.

Early in his time there, Derren's mother was killed in a car accident not far from the golf course. She and Derren's younger brother were driving down to visit him at work. As can be imagined, this was life-changing for Derren, especially as he assumed the support role for his siblings after their mum's death.

After completing his apprenticeship at the age of 20, Derren decided to take a gap year and headed north with a mate. It took three months to get to Broome and by the time they arrived his mate was broke and needed work, so they rented a caravan at Town Beach. Derren was bored and in his travels around town noticed that no one in Broome had a cylinder lawn mower. So, he purchased one along with a verti-mower and started a lawn-mowing round.

Around this time, he decided that he could also supply turf as Broome was growing. He bought a house block in town and started growing turf on it! He reckons it looked like a golf green and stood out like the proverbial

against the surrounding houses. He purchased an Ings turf cutter and started selling turf from the block – what a start to his career!

Once the turf business took off, Derren started raising capital and began looking for a larger block at '12 Mile' on the road north out of Broome. Banks wouldn't lend, so capital was attained elsewhere and a block was purchased that had 80 mango trees on it, a heap of bush and no power or water.

It was around this time that Derren got together with now wife Cher who had moved to Broome. Together they purchased a caravan for \$150 which would act as their home as they went about setting up the new farm. It had no air conditioning or doors and it leaked.

The turf farm was established over the next two years (1995-1997), with the first installation being 3000m² of Wintergreen couchgrass purchased from Westland Turf in Perth. Servicing the local Broome market, all turf was harvested using the Ings cutter, with Cher working alongside Derren on the farm every day. In 1997 they saved successfully for a new Ryan turf cutter and that same year successfully tendered and won the Broome Golf Club installation.

Later that year they also purchased a Van Buren harvester from Greenacres Turf Farm in Serpentine. Derren has much praise for the support that they have received from Adrian and Peter at Greenacres over the years.

In 1999, the turf installation and maintenance for Port Hedland Golf Course was won. It was around this time that Derren also started turf consulting in many areas and was involved in the installation of ovals in remote indigenous communities, notching up thousands of kilometres in the process.

In 2003, the Greenhills started negotiations with neighbours to purchase the current home block, where many renovations were completed. Not long after this, a lease arrangement was negotiated for a far larger block a few kilometres away. Again, this was a bush block that required clearing, bore and pivot installation, with many hours of backbreaking work required to get the new farm off the ground. A large shed was built and seven hectares of Sir Walter buffalo was planted in 2005.

Derren and Cher greatly appreciated the support and friendship of John and Vicki Clayton from Down South Turf at this time. Derren and John had forged a friendship back in the Capel years when John was setting up his turf farm in Busselton. John encouraged Derren to apply for a Sir Walter license and introduced the Greenhills to Brent Redman at Buchanan's Turf. Brent came to Broome and the deal was signed and sealed.

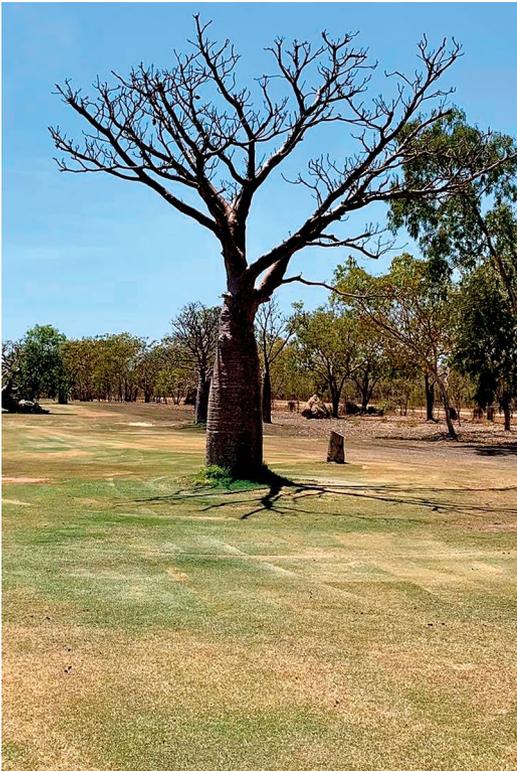
The Greenhills were getting two crops a year from the 7ha of Sir Walter and with the mining boom hitting the state, demand for

HOT? YOU BET!

On the way back from Derby, we stopped at the Kimberley Meat Company, 100km north of Broome. This is the biggest abattoir in the north west region, with over 70 slaughter yard workers. It is an oasis in an otherwise astoundingly hot and dry region. The office is surrounded by 5000m² of soft leaf buffalo that is thriving in a place where it is not uncommon to have a series of 50-degree days.

The ambient air temperature on arrival was 48.5 degrees, so we took the opportunity to take some measurements with a heat gun to compare surfaces in this extreme environment. The turf is irrigated, however, had not been irrigated for over three days before our arrival due to irrigation issues.

The hottest surface was a patch of dead/dying turf which was 23.8 degrees hotter than the green, irrigated turf! And it was hotter than



Derby Golf Club ranks as one of the country's unique golf courses with its stunning stand of ancient Boab trees and being routed in and around the local racecourse

turf rose exponentially. In 2011, the Karratha and Port Hedland areas were a hive of activity and the Greenhills were moving thousands of square metres of Wintergreen couch across the Pilbara and north west region in refrigerated trucks. Daily deliveries were made to the likes of Parabadoo, Tom Price, Newman, Nulagine, Marble Bar, Port Hedland, Karratha and remote communities, as well as Rio Tinto mine sites such as Wickham.

With three young boys and both Derren, Cher and staff working flat out seven days a week, it was an extremely demanding time. The Greenhills rode the mining boom for nearly seven years, but when it stopped, it stopped! Six staff had to be laid off and jobs found for these loyal employees.

The Greenhills had a vision to own the leased property – they were paying \$50,000 a year in lease fees and had installed all

infrastructure on site – but unfortunately this would never eventuate. With the mining boom slowing significantly and demand dropping, they were forced to downsize back to their original holding. While it was a hard decision to make, especially having paid for all the infrastructure without reimbursement, it was the only prudent one financially.

Today, Cher no longer works on the farm and now has a 9-5 job in town with a solar panel supplier. Derren manages the farm alone, but just as this edition was going to print had decided to place the business up for sale. After 23 years of producing turf in Broome, Derren has decided to focus on his turf consulting services across the Kimberley, Pilbara and Gascoyne regions.

Derby's Wintergreen couchgrass greens are irrigated with recycled effluent water. The course is wholly maintained by volunteers

As part of that work he consults for a local private estate and other properties, as well as the golf courses and some LGA work. He is involved with Aboriginal corporations and the Kimberley Land Council and is the consultant for the proposed oval for two of the most remote communities in the state, Balgo and Billiluna. I'm sure Derren's new focus with his consultancy work will prove just as successful as his turf production exploits over the past two decades. 🌱





PHOTOS: BRETT ROBINSON

Beyond the edges...

ATM environment expert Kate Torgersen enlists leading Australian golf course architect Harley Kruse to discuss the concept and importance of golfing sustainability and biodiversity in the first of a two-part article.

I am always interested in hearing about different views on sustainability and the environment within the sports turf industry and also the outside community. For this edition I approached respected Australian golf course architect Harley Kruse to get his thoughts on the importance of golf course sustainability and biodiversity from an architect's standpoint. In this first of a two-part article, Harley looks at these concepts, how golf clubs can play a major role in our communities and how starting small can lead to something significant.

STARTING THE CONVERSATION

"A lot has been talked about over recent years in the golf industry of biodiversity and sustainability around golf courses. But what does it all really mean and what can golf courses do about it?"

The R&A has defined golfing sustainability as "Optimising the playing quality of the golf course in harmony with the conservation of its natural environment under economically sound and socially responsible management".

Certainly, the economic, environmental and social challenges facing golf today means that

sustainability is a key priority for all golf courses. I would suggest there is a moral obligation too, with golf courses being the custodians of relatively large areas of land, which brings with it broader community responsibilities.

To give some perspective on the significant scale of golf courses and their great potential, if we break things down a typical 18-hole golf course occupies some 70-80 hectares of land. Often where the natural terrain is flatter it can be less, but where the land is steep and hilly a course may occupy well over 90ha for 18 holes to comfortably fit.



It is beyond the fairway edge where golf courses around the country have the greatest chance for improvement in relation to sustainability and biodiversity. Pictured is Royal Melbourne's Composite 8 (12 West) during the recent Presidents Cup

Typically for 18 holes, the area of irrigated and mown turf surfaces is around 20-30ha, all depending on the length and width of fairways. On most courses this leaves at least 30ha of land and often up to 50ha off the fairway edge comprising areas of roughs which are maintained to a certain extent, plus more unkept naturalised vegetation areas.

So, where does sustainability come into all of this? Well, when it comes to course and turf management, I reckon Australian golf course superintendents are some of the best in the world in achieving good to excellent turf surfaces with minimal inputs. Particularly minimal water usage, as low rainfalls and droughts in recent decades simply mean the water isn't always going to be there.

In my view, golf sustainability means regular irrigation water should not go beyond the turf playing surfaces. Certainly the wall-to-wall, lush green, ecologically defunct 80s-style resort course look doesn't tick the sustainability or biodiversity boxes and sends the wrong message about what golf should really be.

Royal Melbourne Golf Club, which recently hosted the Presidents Cup to worldwide

acclaim, is a prime example where very carefully irrigated playing surfaces and non-irrigated golden roughs of naturalised grasses and heathland species tick those boxes. The visual contrast was superb. It was sustainability 'green and gold' and it really highlighted how good low input roughs can be.

It really is beyond the fairway edge where golf courses around the country have the greatest chance for improvement. Sustainability is all about having a golfing landscape that can go through its life cycles of plant species establishment, maturation and senescence with minimal inputs. A landscape that has self-regeneration potential and relative ease of sustained landscape amenity around the course. By minimal it is by no means zero maintenance as weed species, density of growth, fuel loads, tree management are all issues to be dealt with.

SMALL STEPS, BIG RESULTS

For genuine sustainability on golf courses, the conversations must include one of its key components – biodiversity; in other words, the variety and variability of flora and fauna on a course as part of an ecosystem.

Nearly every golf course in the country right through to our world-famous layouts can improve biodiversity outcomes. Several courses are gifted with great flora and fauna already and many are already doing great work. It starts with making biodiversity an

important part of the thinking and discussion behind the management of the golf course.

With biodiversity we are looking at the full ecology of a golf course site and its flora and fauna from the ground level right up to the upper canopy. The scale of golf courses mean they can be excellent wildlife habitat and golf does have this responsibility. When we start thinking about our courses in this way then our planning and management decisions will involve biodiversity measures.

Simple measures can start small. Just the act of reducing mown areas and taking the frequency of machinery off areas allows for naturalised grasses to grow, flower and set seed. In turn, the seed becomes food sources to sustain a range of small fauna and the areas can allow certain insects such as moths to breed. Perhaps all a bit less visible, but an important building block of the native fauna food chain and the ecology.

Setting goals around sustainability and biodiversity is important for golf courses to do. Recognising the importance of these things is a first step, and it is important to recognise every course and club are different with differing site and differing capacity.

Start with small steps and the achievements can be very rewarding. How do you go about that? In the next edition we will discuss some of the measures clubs can take to improve the sustainability and biodiversity of their course environment." ﷻ



For genuine sustainability on golf courses, the conversation must include one of its key components – biodiversity; in other words, the variety and variability of flora and fauna on a course as part of an ecosystem



From the **ashes**

Australia's unprecedented bushfires have had a traumatic effect on both communities and biodiversity alike. Regular ATM contributors Vicki Crowe and Terry Muir provide some helpful information for those in affected areas and how golf courses can play a big role in the recovery.

In December, the e-par team developed environment, health and safety 'Stand-up Team Talks' on bushfire behaviour and bushfire radiant heat. That theme continued into January where we addressed handling bushfire injured wildlife and creating refuges for bushfire injured wildlife. It looks like the theme will now continue into February with such talks discussing how to safely work in bushfire smoke, how to fit P2 masks and bushfire eco-anxiety.

Displaced, hungry, stressed and dehydrated animals will most likely continue to be discovered adjacent to fire ravaged areas. Birds, for example, are turning up in weird places and Dr Grant Palmer, a senior environmental science lecturer at Federation University Australia, reports that they have fled their homes and are looking for new ones and there will be fierce competition for resources.

This article will focus on the opportunity for golf course superintendents to create a refuge for bushfire displaced wildlife on their golf course.

BIODIVERSITY CRISIS

We have all seen the devastating images. Descriptions of injured, burnt and dead wildlife, either caught in the blaze or fleeing their habitat. Images of koalas, kangaroos, wombats and livestock injured or killed by the bushfires are circulating daily in the media and reports are surfacing that entire species of plants and animals have been wiped out.

WWF Australia is estimating 1.25 billion native animals have perished in the bushfires. The fires have destroyed mature trees and will rob ecosystems of their vegetation diversity and reduced food resources for wildlife well into the future.

While it is always better not to feed native wildlife, we are in extraordinary times and their natural diet is just not there. The drought has taken out most of the vegetation and now the fires are taking the rest. It's a perfect storm and displaced animals will be seeking food, water and shelter.

As gut-wrenching as it is seeing wildlife caught in fires, all animal and emergency services agree that you must not enter fire affected areas to try and rescue wildlife. If you are not a trained animal rescuer, it's best to leave the animal rescue to the experts.

Opposite: WWF Australia is estimating 1.25 billion native animals have perished in the Australian bushfires. The fires have destroyed mature trees and will rob ecosystems of their vegetation diversity and reduced food resources for wildlife well into the future

Right: Every golf course now has a real opportunity to act as a refuge for those animals fleeing the fires or dealing with the drought

If you see an injured animal on your site, the first thing to do is to call an animal rescue organisation or the local vet. They'll provide specific instructions on how to care for the animal you've found. However, there are a few things you can do immediately to help the injured animal;

- Displaced and injured wildlife will most likely be stressed, so try and keep as quiet as possible when approaching or handling.
- The less people interacting with the animal, the better.
- Keep pets away from the animal.
- Do not attempt to feed the injured animal. Just wrap it gently and loosely in 100 per cent cotton fabric, then place it in a ventilated box with a lid and keep it in a dark, quiet place for transport to the nearest vet or while waiting for a rescuer.
- If handling small animals...
 - Place the animal in a cotton pillowcase or cloth bag; if neither is available wrap it up in a towel or jumper. Wear gloves or protect your hands.
 - Place the animal in a slightly larger box or container. Place the box in a cool, quiet and safe place.
 - Contact a wildlife shelter to arrange for drop off or collection of the animal.
- If handling large animals:
 - Supervise the animal if possible, while keeping a safe distance and without disturbing it.
 - Keep pets and traffic away from the animal.
 - Note the location and what the problem with the animal is.
 - Contact a wildlife carer who will advise the best action to take.
 - Do not attempt to feed or give water to the animal until you have spoken to a wildlife carer. The carer may advise you differently once an assessment of the animal has been made.

CREATING A REFUGE FOR DISPLACED ANIMALS

By its very nature, every golf course now has a real opportunity to act as a refuge for those animals fleeing the fires or dealing with the drought. Golf courses have large open tracts of green and woodland space with habitat ranging from wetland to grasslands to forest, all with well managed feral pest populations – it's the ideal refuge for bushfire vulnerable animals.

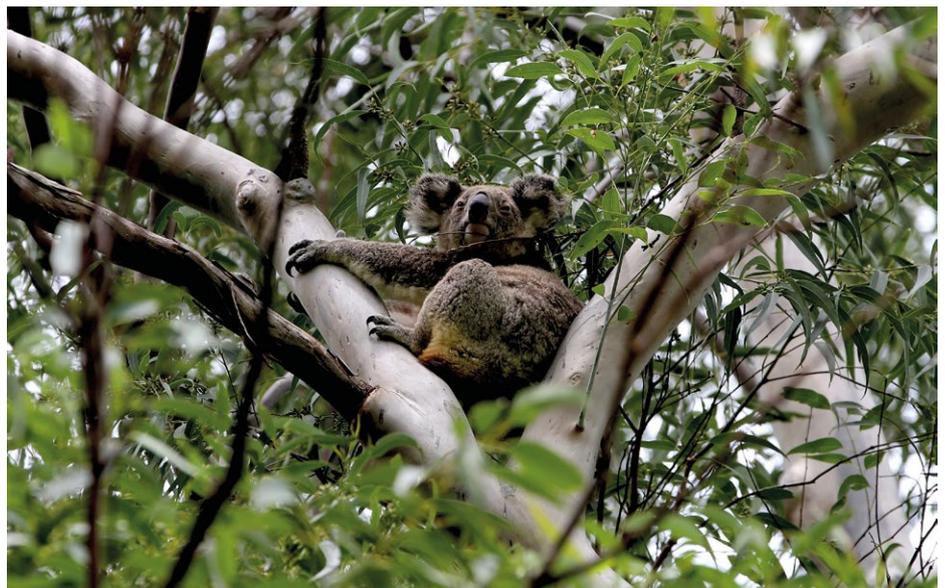
One of golf's big challenges is its image among non-golfers. We know of courses up and down the Australian east coast that are viewed by non-golfers as large tracts of land used by an affluent minority. That is why councils around the country are making judgements about the future of golf courses based on limited information about the true community value of a golf course.

The recent wildlife death estimates from the bushfires come from Professor Chris Dickman, an expert on Australian biodiversity at the University of Sydney. It is estimated that there is an average of 17.5 mammals, 20.7 birds and 129.5 reptiles per hectare in NSW.

If we calculated the area of habitat areas in the roughs and wooded and waterway areas of golf courses and applied that to Victoria's 374 golf courses (which occupy over 18,750 hectares of land), if just 20 per cent (3750ha) of this area is roughs and forested area that means 65,625 mammals, 77,625 birds and 485,625 reptiles call Victorian golf courses home.

If we applied the same data to Sydney – 91 golf courses that cover some 38 square kilometres (3800ha) of open space... if just 20 per cent (760ha) of this area is roughs and forested area that means 13,300 mammals, 15,732 birds and 98,420 reptiles call Sydney golf courses home.

These animals are already under drought pressure and bushfire displacement could add





to these numbers on your course. You can help bushfire displaced or drought affected wildlife by:

- Putting out shallow safe containers of water. The containers should be distributed across the site and not include buckets or anything with handles for heads to get caught in.
- Putting a stick or a few rocks in the bottom of water containers so that smaller wildlife can get in and out if needed such as lizards and small mammals.
- Properly cleaning and refilling the water dishes daily.
- Keeping domestic dogs or cats inside or restrained for a few weeks after the bushfires.
- Dispensing kangaroo pellets or kangaroo muesli and wild bird seed around your site.
- Installing hanging water baths for birds.
- Installing large plastic containers of water to act as watering points. They can be a haven for birds as well as possums and goannas.
- Putting up nest boxes for birds and possums. Hanging hollow logs up in trees and also on the ground for small ground dwelling animals.
- Removing any netting from fruit trees to share some of the fruit with the animals.



As damaged bushland regenerates, golf clubs can act as a stepping-stone or comprise part of a wildlife corridor that will help birds and other native animals disperse into regenerating areas

- Draping something over the edge of swimming pools or dams so that animals have a surface to grab hold of and climb out, such as heavy-duty rope or a piece of timber. If possible, check the pool or dam at least twice every day.
- Keeping an eye out for feral animals that will prey on vulnerable wildlife.
Wildlife escaping fire is only half the battle. After a fire, food resources will often be scarce and in the barren landscape some animals, such as lizards and smaller mammals, are more visible to hungry predators. Birds of prey will arrive quickly at fires. Introduced predators can also be drawn to fires and feral cats have been observed travelling up to 12.5km from their home ranges towards recently burned

ecosystems, potentially drawn by distant smoke plumes promising new prey.

A 2016 study found a native rodent was 21 times more likely to die in areas exposed to intense fire compared to unburned areas, mostly due to predation by feral cats. Red foxes also have an affinity for burned areas.

YOUR COURSE AS A SANCTUARY

Golf course superintendents manage more than a safe and sustainable workplace. They also manage wildlife and habitat sanctuaries – an asset of great community value.

Displaced animals could very well find their way onto your site. As their damaged bushland regenerates, your property can act as a 'stepping-stone', or comprise part of a 'wildlife corridor' that will help birds and other native animals disperse into regenerating areas where the resident populations have been killed by the bushfire.

The Australian bush is remarkably good at bouncing back after a bushfire, but it can take several months for food, water and shelter to regenerate, making starvation a very real risk for wildlife survivors. Turning your property into a sanctuary for wildlife refugees after the fires will make a difference by providing water, the right food and safe places to shelter for animals passing through your property. 🦘

MANAGING EMOTIONAL DISTRESS IN A TIME OF CRISIS

The bushfires that have threatened communities in recent months have been highly distressing for many people. Whether you are directly or indirectly impacted by the recent devastation, there is a lot that family, friends, volunteers and community members can do to help those affected.

Even for those not directly affected by this disaster, 24-hour news of destruction and loss of life can make many people feel overwhelmed and helpless. It is important to acknowledge that constant exposure to traumatic news can have a negative impact on our mental health.

It is common that some people struggle to deal with feelings and thoughts that result from a bushfire or from the tragic losses that may occur. It's important to know the difference between a common reaction to a stressful or traumatic event and signs that indicate you should seek additional support.

Below is some great information that Beyond Blue has posted on their website – www.beyondblue.org.au – to assist with coping following a disaster. Professor Brett McDermott, a former director of Beyond Blue, reminds us that there “is no health without mental health” and at times of crisis it's more important than ever to check in on your own wellbeing and that of those around you.

“There are some clear signs of deteriorating mental well-being, however, these may not always be obvious to us,” writes McDermott. “It is therefore important to respect the opinions of friends and colleagues and consider their views, for they may see signs before you see them yourself.

“They may include feelings of sadness and helplessness, persistent anxiety even when the threat has decreased and relentless thinking about the disaster. They may also include loss of appetite, sleep, interest and vitality. At their worst, feelings can turn to life not being worth living.

“For many people, the marathon of recovery is not yet underway because the bushfire season is far from over. Later, we will need to increase our collective awareness of the signs and symptoms of poor emotional health that may persist after this initial phase.

“Unfortunately, there will be individuals who develop mental health conditions over the coming months. Identifying poor mental health early is critical for providing appropriate support, but for those still at risk, absorbing further information about these challenges is for the months ahead.”

For those who operate a business or work in a bushfire affected area or manage employees, it's important to not only protect your own mental health but also be aware

of those you work with. Approaching a workmate you think might be struggling can seem daunting and www.headsup.org.au provides some helpful tips on how to start a conversation with a colleague.

“If you're concerned about someone, approach them and start a conversation. Try to understand their situation and encourage them to seek support. Helping the person find further information and support services can also be really useful, as this step can seem overwhelming for someone with anxiety or depression.

“Remind yourself that this is no different to talking about how someone's feeling – the topic is just a bit more delicate. Remember you may be the only person to have noticed changes in their behaviour or have the courage to start a conversation. This may be pivotal in them getting the help and support that they need to get and stay well.”

RESOURCES

<https://www.beyondblue.org.au/the-facts/bushfires-and-mental-health/>

<https://www.headsup.org.au/supporting-others/starting-a-conversation>

Sources: Beyond Blue and headsup.org.au

A powerful new fungicide for turfgrass managers

Golf course superintendents and other turf professionals can now purchase BASF's ground-breaking Lexicon® Intrinsic® brand fungicide after it received registration on the 4th of October 2019. This innovative fungicide is a new tool for consistent, long-lasting curative and preventative protection against a broad range of key turf diseases whilst also providing advanced plant health benefits including increased growth efficiency, longer stronger roots, and improved stress tolerance.



Lexicon Intrinsic brand fungicide is a powerful combination of the active ingredients fluxapyroxad and pyraclostrobin. These chemistries travel systematically within turfgrass leaves and are tightly bound to the waxy leaf surface, which means it can be redistributed to areas of the leaf not directly sprayed. This redistribution, along with its high level of activity ensures reliable, more consistent control of nine major key turf diseases including brown patch, dollar spot, fairy ring, pythium blight, pythium root dysfunction, lespista spp., fusarium patch and ERI.



Brown patch



Fairy Ring



Dollar spot



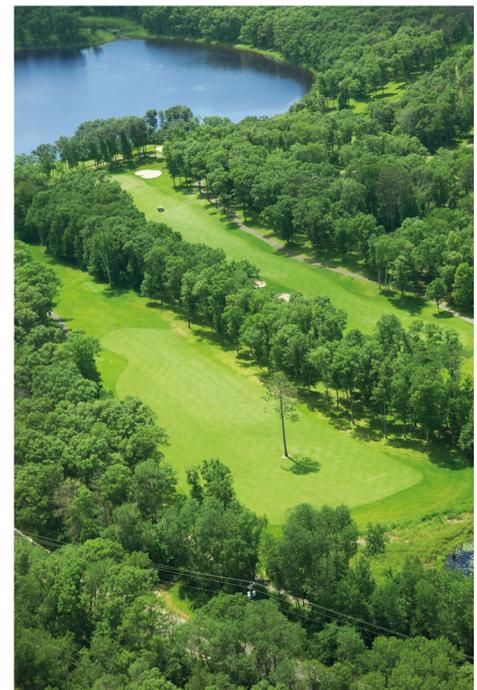
Fusarium

"We're excited to help superintendents produce top-quality turf year-round," said Dr David Elmoutie, Professional and Specialty Solutions Business Manager at BASF. "Lexicon's innovative Intrinsic component takes away stress caused by disease and the environment that turf leaves face. This means they have more energy to make the best use of inputs like carbon and nitrogen and can grow into a championship standard greens, as well as remain protected from disease."

Field trial results for Lexicon Intrinsic brand fungicide have shown it provides efficacious control on a variety of key troublesome turfgrass diseases.

"A trial of Lexicon fungicide for the control of fairy ring was conducted at Grand Golf Course, Gilston, Queensland with half of one of our greens treated" said Rod Cook, Golf Course Superintendent. "Three applications were applied over the trial and a clear difference was noticed within a couple of weeks after the last application. Disease incidence had significantly declined and was combined with an overall improvement in turf health."

BASF will continue to expand its portfolio of turf fungicides and herbicides for turfgrass managers in the coming years which will be exclusive to Globe Growing Solutions.



globe
GROWING SOLUTIONS



Leongatha Golf Club is beautifully routed through a natural bush setting with an abundance of native vegetation and wildlife

Leongatha GC, VIC

Leongatha Golf Club truly deserves the tag of being one of Australian golf's hidden regional gems. In charge of the maintaining the Vern Morcom design is Dylan McMeekin who has spent his entire 21-year career at the South Gippsland club.

Superintendent: Dylan McMeekin (41).

Nickname: Bob.

Family: Wife Louise, children Milla and Oliver.

Period as a superintendent: Ten years.

Association involvement: VGCSA.

Turf management career: Started as an apprentice at Leongatha Golf Club 21 years ago and have been here ever since.

Qualifications: Certificate III Horticulture/Turf.

Major hobbies/past-times: Cricket, golf, basketball, footy, fishing and kids.

Where is Leongatha Golf Club and what is the course/town known for: Leongatha is based about 135km south east of Melbourne along the South Gippsland Highway. The golf club is actually about 15 minutes southwest of the main township on the way to Inverloch.



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

I played golf occasionally with mates in my teens and enjoyed the challenge. The presentation of a golf course always interested me, so when the apprenticeship position came up at Leongatha after I had just finished school I thought I would give it a crack and find out how it was done. I love the job and outdoors... the rest is history.

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

I spent my first 10 years working under superintendent Steve Earle who had great knowledge coming from

The Leongatha GC crew (from left) Tom Sorrell, superintendent Dylan McMeekin and Denis McDonald

As well as more intensive renovations, throughout the year Leongatha's greens are groomed then dusted every 2-3 weeks and vertidraind when time allows

Huntingdale Golf Club. Former Huntingdale superintendent John Spencer, who was a member of the club, also helped us out prior to his death. This was when I learnt you only get out what you put in. It was during this time the club was successful in converting all fairways and tees to Santa Ana couch. Both Steve and John also taught me how to prepare quality turf on a small budget and, most importantly, to trust your gut feelings.

How has the course change since the early days of your apprenticeship? When I first started the club was struggling financially and not a lot of money had been spent on the course. The course had a great Vern Morcom-designed bush layout, but the playing surfaces were cool-season, greens were predominantly *Poa annua*, the tees were uneven, irrigation was all manual and machinery old.

Since then we have slowly rebuilt, levelled and turfed the tees with Santa Ana couchgrass, converted all fairways to couch between 2005 and 2007 and changed the greens to predominantly bentgrass (Penncross/Penneagle). We have also started a vegetation plan managing overgrown trees and undergrowth, reshaped all bunkers, set up a machinery replacement plan replacing most machinery and most recently upgraded the irrigation system on greens and tees.

Give us an overview of Leongatha GC and some of its unique characteristics from a course perspective? The course has long been regarded as a 'hidden gem'. It has been carved out of the natural bushland surrounding with large trees and thick undergrowth vegetation lining every hole. We are very lucky to have a lot of wildlife that call our course home and they are regularly seen by golfers. The greens are tricky, fairways are wide, have great shape and definition, the roughs are rough and the vegetation is thick. It is a challenge if you hit it off line. We also have heaps of water so if it get dry we can water as much as we need.

What are some of the unique features about Leongatha GC from a turf management perspective? Having so many trees that impact turf through shade, airflow and tree roots provides us with year-round management challenges. Having our irrigation dam 800 metres off the course and using travelling irrigators on fairways is always



interesting too. All greens are push-up constructions with some of them more than 60-years-old. Most greens slope from back to front so we have to be careful with green speeds not going over 9'8" on the stimpmeter otherwise they become unfair.

Is it an easy/hard facility to manage? What's the most challenging aspect? It can be challenging for sure. Finding staff and having a small budget can make it hard at times. Our irrigation dam is off course and can have elevated sodium levels so we are always monitoring. All fairways are only manually irrigated with travelling irrigators or hoses, so it's hard to get water out when you need to.



Take us through your turf management operations there. What changes have you implemented in terms of managing the course during your tenure as superintendent?

I felt that I was taught the basics really well, so I have only made small changes. I have increased the use of organic products and now apply compost tea, humic acid, fish and seaweed monthly on greens for disease prevention. I felt a need to reduce the exposure to fungicides and increase soil health. Irrigation water is monitored more regularly and calcium is applied to offset sodium.

Greens renovation practices are more aggressive and consistent. Greens are now cored and scarified twice a year with a big focus on making sure greens are groomed and dusted every 2-3 weeks. I have been fortunate the club has been in a position to continually upgrade and add machinery. We now have much more reliable machinery and healthier turf as a result.

What other maintenance changes do you want to introduce/plan on introducing? I would like to focus on couch encroachment in greens and green surrounds. Maintaining a pure bent or fine fescue buffer is my goal. A trial is in place but we have a long way to go. Increasing soil health in the fairways is also a priority. If the budget allows it would be nice to keep upgrading irrigation pipe work to allow more sprinklers to be added to the Toro Lynx automatic controller.

A more aggressive and consistent renovation programme has paid significant dividends in the performance and management of Leongatha's bentgrass greens



Among many course projects in recent years, all bunkers have been reshaped and refurbished

Any special environmental considerations that you have to incorporate into the management of the course? We are very lucky that the course setting is natural bush and vegetation has always been there and an integral part of the layout. It has always been our goal to encourage out of play native areas and add some definition to areas through plant length and colour. Having areas that do not get cut regularly helps us to regularly cut the areas that are in play and grow a lot faster. Some out of play areas are only cut once or twice a year.

With the help of Kate Torgersen we have identified a lot of species around the course and have started transplanting plants into areas that have been trafficked or mown out or just need a little help. The most notable area we have worked on is the carry on the par three 14th.

With so many trees and wildlife on course, there is always considerations when spraying herbicides. We do not spray too close to trees and vegetation, especially close to heavy rainfall and golfing events. Run off and tracking can be very visual and dangerous.



What are some of the major challenges facing Leongatha GC both from a turf and general club management perspective?

From a turf management perspective, couch encroachment in greens and green surrounds is becoming a big issue. All greens need work to some degree and we are like many other clubs who have tried many products to overcome this. We have recently built a fine fescue turf nursery and a trial is in place to spray out 1-2 mower widths of surround and re-turf with the fine fescue. A spraying programme will then be in place to control regeneration. Club management issues are more related to keeping membership and golfing numbers consistent from year to year. Over the years they have done a great job considering we have an older member base.

Outline any major course improvement works recently completed and/or highlight any ongoing or future works that the club is undertaking. As mentioned earlier, there have been many projects completed over the last couple of years including reshaping and refurbishment of all bunkers, rebuilding and levelling tees, construction of a turf nursery, drainage across fairways, grading of cart tracks, re-turfing bare areas and tree maintenance to allow more sunlight and airflow.

McMeekin relies on volunteers and working bees to keep Leongatha in the condition it is renowned for. Among the regulars (left) are Peter Seth and club president Peter Waters



The most recent major upgrade was to the irrigation system. The club was lucky enough to receive a grant that significantly helped fund the project. The project was many years in planning and the main aim of it was to automate the greens, tees, fairway hydrants, new pumps, foot valve and pump shed. We now have an excellent Toro Lynx control system, Infinity sprinklers on greens, T5s and T7s on tees, Grundfos pumps and the ability to add to the system when funds allow. Now completed, this project has significantly saved many man hours, power costs and reduced the inconvenience to golfers.

More irrigation works are planned with mainline upgrades and sprinklers to be added on par 3 approaches. Fairway irrigation is being investigated on the 5th and 6th holes to eliminate the need of travelling irrigators. Transporting irrigators on the slopes we have here can be very challenging.

Water is obviously a critical issue for any golf course. How is Leongatha GC faring in the water management stakes? We are very lucky that we have a large dam we use for irrigation. Even though it is off site, we have more water than we can put out. It is feed by run off and over flows every year, touch wood!

The weather and climate is always a great leveller for a course superintendent. How has Mother Nature treated the course in recent times? As all superintendents know, Mother Nature and weather forecasts are always hard to deal with. Every day, week, month and year is different. Some members don't seem to understand this as they compare course conditions year to year and expect the same conditions day to day.

When applying any fertiliser, pesticides or pre-emergents on fairways it is always timed around rainfall washing it in as the travelling irrigators take too long. When you want 6mm you will get 20mm and then you want 20mm

but only get 2mm. Other times you get nothing and the irrigators have to go out to wash in, taking seven days to water all fairways. Unfortunately we need to rely on the weather too much to get good product results.

The one product I couldn't manage my course without is... Primo Maxx. It's a must with small staff and only one fairway mower to maintain 13 hectares of Santa Ana couch. It is a huge advantage over the busy summer holiday season reducing cutting time and clippings. It just makes the course present so much better.

Do you use volunteers to assist with the management of the course and if so how important a resource are they? With only three staff, the only way we survive presenting the course to a high standard is with the assistance of volunteers. I am lucky to have Peter Seth, Leon Collier and president Peter Waters as my two-day-a-week regulars. They are great and do any job that needs doing. We also regularly call monthly working bees and are open to volunteers coming out whenever they can, even if it's only for an hour or two.

I focus on having a small group who rotate cutting rough when needed, another group that can help cut fairways and the others helping out with various tasks such as filling sand bins, divotting tees, emptying bins, blowing, trimming sprinkler heads, cleaning up fallen trees/limbs, spot spraying and maintaining around the clubhouse. Volunteers are always welcome.

What have you got in your shed? Mainly red. 2 x Toro 3250, Toro 6500, Toro 5510, Toro 3280 rough cutter, Toro Multi Pro 1250, Toro 5040 bunker machine, Toro Pro Force blower, 2 x Toro MDX Workmans, Toro Flex 2100, John Deere 4410, John Deere 4105 loader, Tru Turf R52 roller, Dakota 410 topdresser, Vertidrain 7215, Graden GS04 scarifier, Ryan turf cutter, Silvan 1000L 6m boom, Rayco 6-inch chipper, Mitsubishi tipper.

What's your favourite piece of machinery and what's on the wish list? The Toro Multi Pro 1250 sprayer is accurate, easy to use and saves so much time. We are very lucky that a machinery plan was put in place to continually update machines and over the last 10 years nearly every machine has been replaced. The next machine to be purchased will be a newer Toro Multi Pro 1250 or a Toro HDX workman. Both machines are valuable and will make the job quicker and easier. The wish list also has a



The most recent project at Leongatha has seen a major upgrade to the tees and greens irrigation system

excavator on it – could help with so many jobs around the course.

What are some pros and cons of being a regional superintendent? The cost of getting products delivered has to be factored into the budget. The time it takes products to get here can be an issue if needed straight away. I would like to attend more information days and seminars but the time and distance is often too far. It is always good driving to and from work with no traffic.

Are expectations of course presentation and conditioning any less than that placed on your metropolitan counterparts? I do not think they are less. All clubs have expectations. I would think most would understand our location, budget and staff restraints. Over the last couple of years I am finding the expectations are getting higher as more members are joining from metropolitan areas.



If you could change one thing about your job as a regional superintendent what would it be and why? Bigger budget and more staff obviously. The course is located 15 minutes from Leongatha so a course closer to town would mean less travelling to pick up parts and products. Apart from that, the club is going in the right direction, staff are great and the course is one members enjoy and most can see how far it has come.

Do you think regional/country superintendents have a better work-life balance than their metro counterparts? I have not been a metro super, but from those I know they are all passionate and spend long hours when needed. I am lucky to have a good work-life balance.

How important are the relationships you have with other course supers/trade reps? Very important. The reps that call on us are

all very knowledgeable and always willing to help. They have a lot of experience being ex-superintendents and understand our issues. Quite often bringing products with them saves freight and time. Talking to guys like this is a way to further your knowledge without leaving the course.

What are some of the more unusual requests/things you have had to do as a superintendent of a regional course?

We had a competition where goal posts were put up at the start of the first fairway – if you ‘hit’ a goal you got bonus points! Watching Denis go for a swim in the dam to clean the foot valve is always funny.

Favourite spot on your course? The 14th tee looking towards the green. Natural native vegetation can be seen from the tee to an elevated green with bunkers. You can also look back down the 13th with a smile.



Uniquely, Leongatha’s main 50ML irrigation dam lies some 800m outside the course boundary

Best advice you have received about being a course superintendent/greenkeeper?

You always get complaints no matter how good the course is. Stick to what you know and trust your own ability.

What is the most challenging aspect of a superintendent’s role today?

Maintaining the course to a set level with only a certain amount of available man hours. Also, the increase in

paperwork and WHS demands requires more time in the office and less on course.

What have you worked on personally in recent years to improve your skills as a superintendent?

Continually trying to further my knowledge by talking to other superintendents, reps and always reading. Also making sure communication with all staff on course and in the clubhouse is improving.

What gives you the most job satisfaction?

Seeing the course continually improving to a standard members and visitors appreciate and hearing their positive feedback.

Most pleasing/rewarding moment at Leongatha?

To finally upgrade our irrigation. To see new pumps, greens and tee sprinklers on the Toro Lynx controller was amazing. The end result made all the hard work worth it and meant goodbye to 3am manual watering! 🙌

AT A GLANCE – LEONGATHA GOLF CLUB, VIC

Course specs: 5785 metre par 70. Greens and surrounds one hectare in size. Greens are Pennecross/Penneagle bentgrass with bentgrass/fine fescue surrounds. Santa Ana tees (0.8ha) and fairways (13ha), 18 bunkers and a 1500m² fine fescue nursery.

Members/rounds: 550/22,000.

Major tournaments/events: Club championships (October), four-day annual tournament (November), Trainee Pro-Am and South Gippsland Classic (both February).

Annual course budget: \$95K.

Staff structure: Dylan McMeekin (superintendent), Denis McDonald and Tom Sorrell.

Annual rainfall: 1000mm.

Soil types: Sand, sandy loam, soil, clay and coffee rock.

Water sources/irrigation system: 50 megalitre irrigation dam (fed by run off) located 800m from 5th green with 30m head. Two Grundfos 18.5kw pumps, Grundfos dosing pump, Amiad auto flush filter. Toro Lynx controller with Infinity back-to-back sprinklers on greens, T5 and T7 sprinklers on tees. Four travelling irrigators and hoses used for fairways.

Cutting heights: Greens 3-3.5mm, surrounds 10-12mm, tees 8-10mm, fairways 12-14mm and rough 2.5 inches.

Renovations: Our greens reno programme is carried out in November and end of February. Process is to scarify with a pedestrian

Graden to a depth of 30mm, push off with bunker machine blade then blow off, core with Vertidrain using 17mm fairway tines to a depth of eight inches, sand and rub in. We then Vertidrain with 8mm solid tine blocks at a depth of 10 inches, shaking in the sand and making more holes, rub in sand, blow, add amendments and water. During the year, greens are groomed then dusted every 2-3 weeks and vertidrain when time allows. There is no vertidrain after May as surface is sealed and firm.

Tees are scarified with a pedestrian Graden every second or third year depending



While greens and tees are controlled by the new irrigation system, Leongatha’s fairways are still manually watered with travelling irrigators

on their condition and weather. Fairways receive minimal fertility and irrigation and get hit hard over winter (dormancy), so every year we take a conservative approach. Renovation can either be light grooming, verti-raking, decking at a lower height, scarifying, spiking/slitting or just leaving.

Major disease pressures: In the past we have sprayed for pythium, brown patch and dollar spot. We are now using phosphites and more organic products with excellent results. The biggest success we have had is using monthly applications of a brewed compost tea. This has reduced our fungicide applications by 70 per cent while also increasing our soil health.

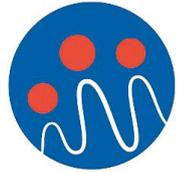
Nutrition management: On greens our focus has been to use more organic products to help with our compost tea microbiology. Seaweed, fish, humic acid and amino acids are applied monthly.

Nitrogen inputs are low and only applied when needed as we try and keep any *Poa annua* unhealthy and are finding the organics to be enough. Calcium will be applied three times during the year to offset sodium in the irrigation water.

When it comes to fairways, they receive very little. We make a mix of extreme green iron and magnesium that is applied for colour and extended definition during December and January. I am currently working to increase fertility on fairways if the budget allows.



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The new Toro Groundsmaster 1200 pull-behind rotary mower includes three contour-following cutting decks featuring a 12-foot (3.7m) width of cut

TORO CUTS NEW PATH WITH GROUNDMASTER 1200 PULL-BEHIND

ASTMA Platinum Partner Toro recently launched its new Groundsmaster 1200 pull-behind rotary mower into the Australian market. The Groundsmaster 1200 includes three contour-following cutting decks featuring a 12-foot (3.7m) width of cut and can mow up to 3.53 hectares at 9.7km per hour. It offers enhanced productivity and quality of cut for both sports turf and golf roughs.

Full width rollers on the front and rear of each deck give a great quality of cut. The front roller helps reduce scalping in undulating terrain and the rear roller delivers exceptional turf striping. Each roller includes heavy-duty bearings featuring easy access grease points.

The Groundsmaster 1200 is not only a highly productive mower, it's also versatile. Each deck features four mowing height adjustment points making it simple and quick to deliver the exact mowing height for the required finish. The height of cut is up to four inches (10.2cm).

The pull-behind mower features a deck lift system which allows for the decks to be lifted from the turf while the PTO is engaged, to quickly turn around without scuffing the grass or transport over paths.

"This system really helps turf managers running at peak productivity," says Toro's equipment product marketing manager Brian Goodridge. "The wing decks also fold up to near vertical for a narrow 86-inch (218.4cm)

transport width, which makes it easy to go from site to site.

"On top of this, the transport wheels have an integrated torsion spring. This effectively serves as a suspension system and gives a very smooth ride. It really makes transport a lot quicker and comfortable."

Remaining true to the Groundsmaster's reputation of durability, the 1200 was designed for years of reliable mowing. Its spindles are the same as Toro's large rotaries, with heavy-duty shafts and dual tapered roller bearings that are capable of withstanding rough conditions. The bi-directional impact absorption technology cushions and protects the individual cutting decks against damage from obstacles while mowing.

"This new unit is the ideal piece of equipment to complement the new Toro Outcross 9060 and we are very excited about it," says Goodridge.

In addition to the new Toro Outcross 9060, the new Groundsmaster 1200 pull-behind rotary mower is also compatible with many other tractor makes and models (minimum 35 PTO horsepower – 26kW – tractors).

For more information on the Groundsmaster 1200 pull-behind rotary mower, contact your Toro rep or visit www.toro.com.au.

MANSFIELD JOINS CCI



ASTMA Bronze Partner Country Club International (CCI) has welcomed John Mansfield (pictured) to its team

effective from February. Mansfield has been in the Australian turf industry for nearly 30 years and for the past five years has been running his own business JM Golf Turf Services.

Mansfield has sold golf course hardware accessories and driving range equipment over a long period and is well known in the industry Australia wide. He will be assisting CCI clients with their golf course and driving range needs and can be contacted on 0418 362 353 or email mansfield@countryclub.com.au.

JOHN DEERE TRIPLEX MOWERS SCOOP ENGINEERING AWARD

Two of ASTMA Silver Partner John Deere's triplex mowers – the 2700 and 2750 PrecisionCut and E-Cut Hybrid (pictured opposite page) – were recently honoured as a 2020 AE50 Award winner by the American Society of Agricultural and Biological Engineers (ASABE).

ASABE is an international scientific and educational organisation dedicated to the advancement of engineering applicable to agricultural, food and biological systems. Each February the ASABE announces the AE50 awards and presents the award at the ASABE Agricultural Equipment Technology Conference in Louisville, Kentucky.

Each year the AE50 awards highlight the most innovative designs in product engineering in the food and agriculture industry, as chosen by a panel of international engineering experts. Winners include

machines, systems, components, software and services ranked highest in innovation, significant engineering advancement and impact for the markets they serve.

The development of the 2700 and 2750 reel mowers was based on customer needs and challenges, most importantly the struggle to find quality labour and tight operating budgets. With this in mind, the triplex mowers are equipped with the advanced TechControl system. This system is passcode protected and allows superintendents, technicians and other trusted supervisors to input commands, controlling nearly everything regarding the operator's performance, including frequency of clip, turn speed, clean up pass speed and how fast the cutting units raise and lower.

Engines on all models are electronically controlled and include an 'Eco' mode which automatically reduces engine speed when mowing, saving up to 30 per cent in fuel and up to 3dB(A) in sound levels. The lightweight open platform design with a low centre of gravity ensures excellent stability and traction performance. The 2700 and 2750 triplex mowers offer a 157.5cm (62-inch) mowing width and mow speeds of up to 9.7kph for increased productivity.

"Our customers are battling a variety of challenges, from labour to budgets. The 2700 and 2750 triplex mowers were designed to directly tackle these concerns and take the stress out of mowing," says John Deere Golf product manager Brad Aldridge. "From the innovative TechControl system to the open platform design and excellent cut quality, these machines allow for a precise, uniform cut, regardless of the operator."

The new 2700 and 2750 triplex mowers will be available to order in early February 2020. For the latest news and product launch information from John Deere, see your local John Deere dealer.



AGCSATECH AGRONOMY TEAM EXPANDS



Due to continued growth of its analytical and consultancy services, the ASTMA announced the appointment of Steve Tuckett (pictured) as full-time agronomist early in the New Year. Tuckett joins the existing AGCSATech agronomy team of Bruce Macphee and Tim Fankhauser.

Tuckett has vast experience in the turf management industry both on course and in the classroom. He began his career as an apprentice at Melbourne's Tirhatuan Lakes before taking on the assistant's role at Churchill Park Golf Club. He was then assistant superintendent at Metropolitan Golf Club under superintendent Pete Sawyer, preparing the course for the 1993 Australian Open, before moving to the Mornington Peninsula where he was superintendent at Sorrento Golf Club for nine years.

After leaving Sorrento in the early 2000s and taking over the running of a motel, Tuckett joined Chisholm TAFE in Rosebud as a sessional teacher, teaching a variety of units for the Certificate 3 and Diploma of Sports Turf Management courses. After 10 years there, he took on the full-time role of sports turf management teacher at Melbourne Polytechnic, a role he held up until December.

Tuckett will work alongside Bruce and Tim providing ASTMA members and clients with accurate, unbiased agronomic advice and services. In addition to his considerable agronomic experience, Tuckett's passion for turf management education will also be of major benefit for the association and its activities in this area. Tuckett can be contacted on 0419 328 809 or email steve@agcsa.com.au.

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To everyone on both sides of the Ditch, a very Happy Year and I wish you all good health and happiness throughout 2020.

Summer has shown its mark around most parts of New Zealand with many areas in need of decent rainfall. Parts of the South Island had rain late in December but are now drying out, while in the North Island rainfall has been scarce for the past few months with Northland, Waikato and Taranaki all in near drought conditions. One of the positives has been a lack of high humidity and with that a drop in disease pressure and savings on fungicides. Hopefully by the time this article is in production rainfall will have returned and then, ironically, we will be cursing the stuff.

PERRY MEEHAN

For the second consecutive year the festive season has claimed one of our own. Tragically, long-serving course superintendent **Perry Meehan** drowned while swimming at a beach in Coromandel on Boxing Day. Despite the best efforts of local surf lifesavers they were unable to revive him.

Perry (60) was superintendent at Morrinsville Golf Club and had been at the course for a number of years. Perry also had a very keen interest in drag racing and held key administration roles at the well-known Meremere Drag Strip south of Auckland. Our thoughts go out to Perry's wife Jody, daughter Emily and son-in-law Darren.

AUSTRALIAN BUSHFIRES

Our thoughts also go out to those in Australia that have been and are being affected by the devastation of the raging bushfires. As with the earthquake damage in Christchurch a few years back, most of us are divorced from its direct effects as we simply see it on the television news for a few moments and then, by human nature, forget about it until we see it again on television.

Unfortunately for those families directly affected by way of losing their homes and/or loved ones, they live the tragedy each and every minute of the day. Fortunately, New Zealand has given assistance both in monetary terms and also sending firefighters to help combat the fires. It is in these times of turmoil that the true ANZAC spirit kicks in and we are there for each other; the truest rivals on the sporting field, but mates together in adversity.

On a local level, one of my volunteers here at Westown Golf Club, **Terry Doherty**, migrated from Victoria to New Zealand some



Westown GC volunteer and Aussie ex-pat Terry Doherty (above) was the brains behind the recent Taranaki Golfers Bushfire Charity Day which raised \$20,000 for the Australian bushfire crisis. Together with NZGCSA president Steve Hodson (far right), they raised \$1000 to have their facial hair shaven off

40-odd years ago, so has a foot in both camps. With friends and family having been rescued from these fires, Terry felt he had to do something to help those in need and came up with the idea of having a golf tournament to raise funds.

He bounced it off key personnel from neighbouring golf clubs who quickly bought into the concept and the Taranaki Golfers Bushfire Charity Day was born. Word went out to amass 36 teams for an Ambrose tournament at \$150 team, together with sponsors for the respective holes. The response was overwhelming with 64 teams wanting to play and all holes attracting sponsorship. Unfortunately, the logistics of 64 teams for an Ambrose doesn't work so we had a full field of 36 teams, with the surplus teams still donating to the cause.

The day was held at Westown – the club donating the course for the day – and involved the efforts and hard work from the members of not only Westown but also Inglewood, Manukorihi and New Plymouth golf clubs. Spot prizes were donated locally and from around New Zealand, with all entry money and other fundraising from the day given to assist volunteer firefighters' families.

Terry set an ambitious target of raising \$20,000 and I am delighted to report that we managed to exceed that amount. The day went without a hitch and was played in stinking hot conditions, the irony of which wasn't lost on those who took part.

There was only one downside from the day. In the lead-up to the event, Terry offered to shave his moustache off for the right money. Given that his kids, who are in their 30s, haven't seen him without one, it was no



surprise that the sum of \$500 was quickly raised to see it come off on the day.

The downside was that given his target had been met, he started looking around for another hirsute individual to help raise funds by similar means. After much coercing, I agreed to shave off my beard if the \$500 tally could be matched. Given that my chin hasn't seen the light of day for 25-plus years, there were plenty of so called 'mates' who put their hands in their pockets and alongside Terry I was ceremoniously de-bearded on the day.

All joking aside, it was all for a fantastic cause and while Terry's and my facial hair will grow back, many of the firefighters' lives and the lives of many Aussies whom have had property damage and lost loved ones will be in turmoil for some time yet, so everything in balance.

TRAINEE OF THE YEAR

Finally, congratulations to the following turfies who will compete for the Power Turf NZ (Jacobsen) Trainee of the Year later in March.

- Tyler O'Leary (Westown GC)
- Kane Findlay (Profile Farms)
- Ben Engels (Cambridge GC)

This is another fantastic opportunity for our members and we thank **John Woodham** and his team at Power Turf NZ for making this possible. Good luck to all candidates.

STEVE HODSON
PRESIDENT, NZGCSA

With summer coming to an end, it is fair to say that Queensland has faced all that Mother Nature has to throw at it in recent times. The weather has been hot, dry and extremely wet, causing the state to have both widespread drought and bushfires. This has been sure to test all greenkeepers state-wide.

Headland Golf Club superintendent **Ben Tilley** featured a blog on the GCSAQ website about the super storm that hit the club just before summer officially started. Ben describes 70kph winds that swept through the golf club causing damage far in excess of anything that he has ever witnessed before in his 13 years there.

Concrete paths were lifted in sections of up to 5m, concrete mesh was bent and broken, there was branch spear damage to several greens and large trees were lifted and destroyed, with one even leaving behind a big crater from its root ball. Overall, 60-70 significant trees were lost with major structural damage to hundreds more across the 18 holes during the super storm. Read the full story in the blog section of our website (gcsaq.com.au)

RACV Royal Pines Resort once again hosted the Australian PGA Championship in December with huge success. Superintendent **Lincoln Coombes** and his team along with a handful of volunteers prepared the course to an exceptional standard for the event.

"The lack of rain leading up to the event was pretty much our largest obstacle to overcome," Lincoln says in his report on our website. "Knowing that, all we could do was worry about having the greens surface in the best possible shape. We are lucky enough

STA VIC



STA Victoria will support the ANTEP 5 trials being undertaken by the Australian Seed Federation (ASF) and also run a herbicide trial alongside it to compare the various chemical options available to assist in transitioning out ryegrass from a couchgrass base. As such, we are reaching out to members for any suggestions of chemicals, or especially mixes, that they are using or believe could be investigated further.

Bruce Macphee, senior agronomist from AGCSATech, has been commissioned by the ASF to carry out the trial and will also run the herbicide trial. The site of the trial is Evergreen Turf in Pakenham, Melbourne. The trial will



to have Class C recycled water, but with this comes its own problems with chlorides and sodium levels reasonably high." Visit the blog section of our website to read Lincoln's full overview and view images from the event.

Be sure to save the dates for a number of field days and events that the committee has scheduled throughout 2020. Three dates have been confirmed - Tuesday 4 February, Tuesday 7 April and Tuesday 2 June. Please register for these events in advance using our online registration links so that we can get an idea of numbers.

Our membership numbers are steady, however, if you have let your membership lapse please contact ASTMA membership manager Allison Jenkins via email admin@agcsa.com.au to renew your membership. As always, the committee welcomes any feedback and/or suggestions. Please email us at info@gcsaq.com.au at any stage. Happy golfing.

PAUL MCLEAN PRESIDENT, GCSAQ

be sown in March and run through to spring when the trial sprays will be applied. Current technology such as NDVI scanners and drones will be among the assessment tools used.

This is an opportunity for members to put forward their thoughts on ideal transition dates, preferred chemical or blend of chemicals and cultural transition (start times and key processes). Please email suggestions as soon as possible to **Jan Fenton** at STA Victoria vic@sportsturf.asn.au. We look forward to sharing the trial progress along the way.

COMMITTEE, STA VICTORIA



PHOTOS: BEN TILLEY

Sunshine Coast's Headland Golf Club copped the full brunt of a supercell storm in late November which caused widespread damage across the course

ON THE MOVE...



JAX BATTYE: The 2019 GCSAWA Graduate of the Year has gone from assistant at The Cut, WA to superintendent at Sanctuary Golf Resort, WA.

DYLAN KEAM: Elevated to superintendent at Bundaberg Golf Club, Qld following the departure of Sean Stuchbery who has taken on a new role with SunWater, the local water authority.

DUNCAN LAMONT: From superintendent Surfers Paradise Golf Club, Qld to superintendent Townsville Golf Club, Qld.

STEWART MACFARLANE: Has departed as superintendent Waterford Valley, Vic and moved to Sunshine Coast with his family and started his own turf business air2turf.

BRAD PAVLINOVICH: The former assistant superintendent of 10 years has taken over from outgoing superintendent Dion Warr at The Vines Resort & Country Club, WA.



SCOTT REID: A graduate of the 2019 ASTMA Future Turf Managers' Initiative, Reid has moved across from County Club Tasmania, Tas to take over as superintendent at Launceston Golf Club, Tas.

STA ACT

On behalf of the ACT Sports Turf Association I would like to start by wishing all of Sports Turf Australia and beyond a Happy New Year and best wishes for the year to come. Let's hope Hughie has a fair bit more for us this year!

It has been a far from quality end to 2019 and start to 2020 here in the nation's capital and surrounding region. With the devastating fires on our South Coast and the continuing trend of less than average rainfall totals, it really has been a less than ideal beginning to the year.

Up until the last week of January, we were fortunate to have had no fire activity within our borders, but did have easterly and south westerly winds blow thick smoke into the region. This resulted in Canberra having the poorest air quality around the world for consecutive days, which led to the closure of sports turf facilities and cancellation of some sporting events. This has made it extremely difficult for turf managers and curators to maintain their surfaces.

From my personal experience here at Federal Golf Club, we unfortunately had to cancel an annual Jack Newton Junior Week

of Golf event due to the poor air quality and forced course closures for up to a week from 1 January. Down the road at Manuka Oval, they were forced to abandon play of the Big Bash League game between the Sydney Thunder and Adelaide Strikers.

Fires did, however, flare up in late January with outbreaks near Queanbeyan and to the south in Orroral Valley, with ash and soot being deposited across most of the capital. And the week before the fires, parts of Canberra were smashed by a hailstorm which caused surface damage at the likes of Manuka Oval and Royal Canberra Golf Club.

Water is certainly still a huge issue in the region. We have been lucky enough to have had a little bit of rain during January, but like everywhere could do with a whole lot more. The usual afternoon storms we are used to here in Canberra haven't eventuated this year keeping courses and surfaces quite dry over the summer period.

Our turf counterparts on the South Coast have had a very tough end to 2019 and horrible start to the New Year with the devastating fires wreaking havoc across the coastline. No major damage has been

recorded to any sports turf facilities throughout the region and thankfully all staff members are safe.

During this tough time it's hard to see the good, but golf clubs and recreational sporting grounds have opened their doors for makeshift evacuation centres. These facilities have dug into their own pockets to provide food, shelter and entertainment to families evacuated from their homes along the coast.

Hats off to the Hanging Rock Sports Complex for providing their sporting fields for evacuees to camp and set up caravans as a home away from home. Further down the coast, Bermagui Country Club and Narooma Golf Club both opened their doors and fairways for families to camp, eat and try take their minds off the devastation happening around them. No doubt smaller sports turf facilities would have offered their services to the community also. We commend these people for helping anyway they can.

Finally, I'd just like to wish everyone a safe and happy 2020. Enjoy!

**JIMMY CORRELL
COMMITTEE, STA ACT**

NTEWG

Sports turf management educators from across the country converged on the Canberra Institute of Technology for the 16th National Sports Turf Validation Meeting in early December. Congratulations to **Bruce Davies, John Ellis and Gary Dawson** who did a marvellous job hosting the event.

Our industry is fortunate to have a truly national organisation which meets biannually to discuss all matters relating to turf education – the National Turf Education Working Group (NTEWG). This group is made up of representatives of TAFE institutes delivering sports turf qualifications and industry representatives from state and national associations. The December meeting saw 40 delegates attending over two days, with all sectors represented.

The latest meeting was a particularly important event due to the recent endorsement of the new Sports Turf Management Training Package. Discussions on delivery and timing of the new package will ensure a smooth transition and that training continues to meet the needs of the industry.

Over the two-day event, institutes provided assessment and delivery strategies for 25

units of competency in Certificate II in Sports Turf Management (AHC20919), Certificate III in Sports Turf Management (AHC31319) and Diploma of Sports Turf Management (AHC51019) qualifications.

Following review of the training package, there was overwhelming support nationally from the large contingent with all units being put forward and validated by our industry partners. The result is a consistent delivery of assessments across Australia. Once quality assurance has been concluded, Delivery and Assessment Guidelines will be posted shortly on industry websites and provides employers and students the opportunity to gain an understanding of the minimum assessment standards undertaken in every unit of each qualification.

Day two started with an informative presentation from sponsor **Jyri Kaapro** on the industry's biggest pest problem (sting nematodes) highlighting the importance of monitoring populations from spring through summer which was emphasised using statistics from recent field work conducted in Sydney. This was followed by an update from Skills Impact industry engagement manager

Kate Vanson who advised of the processes involved in the recent curriculum review and the Joyce Review of the VET Sector, which was well received by industry partners.

The NTEWG meeting saw excellent attendance from both the state and national industry associations, as well as TAFE institutes. The meeting aimed to strengthen industry ties with TAFE colleges, with the aim to focus on increased funding for training across Australia and the endorsement of assessment strategies following institute review. It was particularly pleasing to have **Daimon Jones** representing the Sports Turf Association in South Australia.

Our next meeting is planned as part of the Asia Pacific Turfgrass Conference in Melbourne on Monday 22 June, 2020. For more information regarding training, please contact your local TAFE college or either NTEWG co-chairs **Albert Sherry** (albert.sherry@tafensw.edu.au or 02 4936 0215) or **Hugh Gardner** (hughg@hume.vic.gov.au or 0418 245 557)

**ALBERT SHERRY
CO-CHAIR, NTEWG**



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