

CELEBRATING THE EFFORTS OF AUSTRALIA'S TURF MANAGEMENT PROFESSIONALS

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# Turfgrass

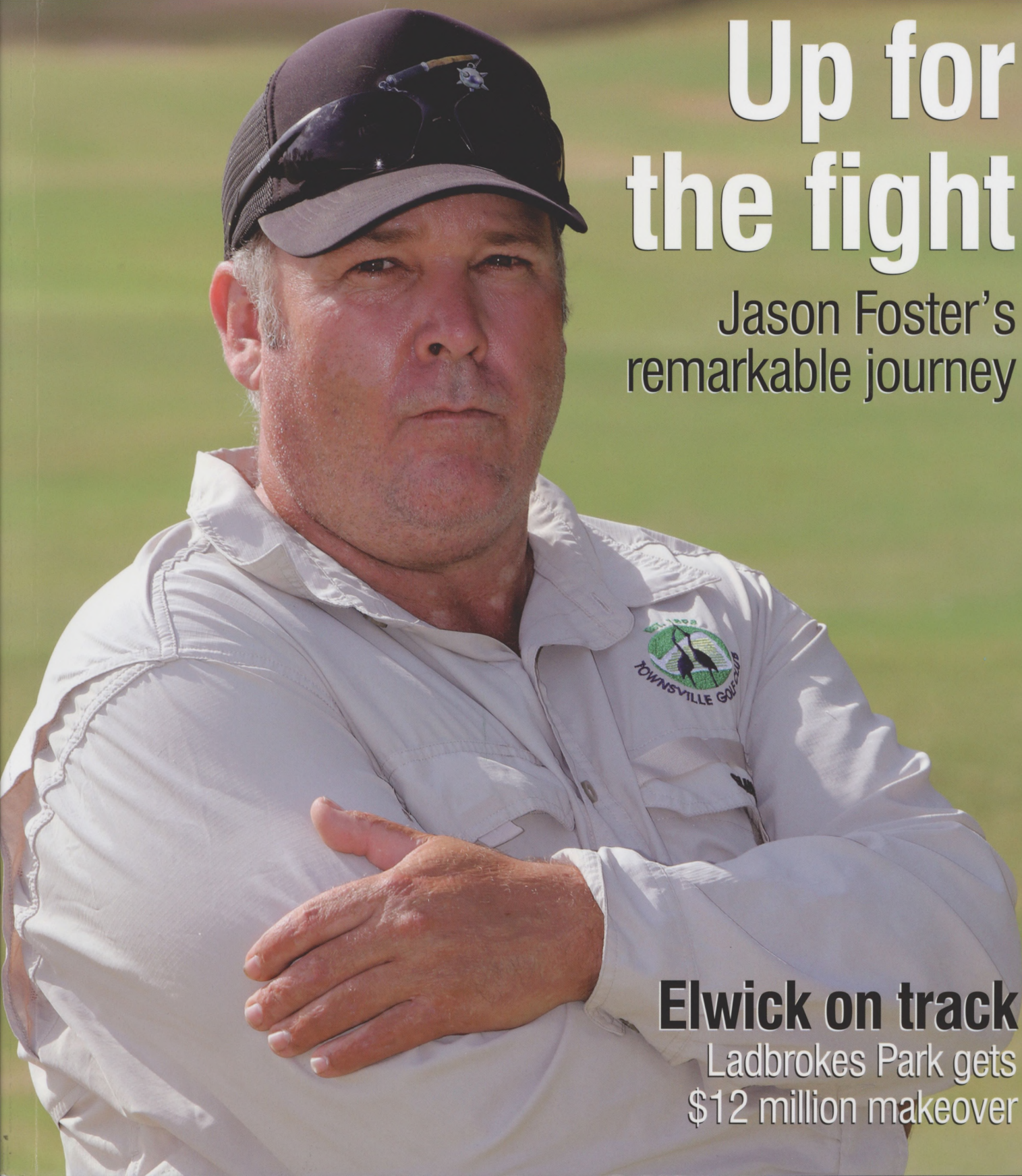


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MANAGEMENT JOURNAL

## Up for the fight

Jason Foster's  
remarkable journey



## Elwick on track

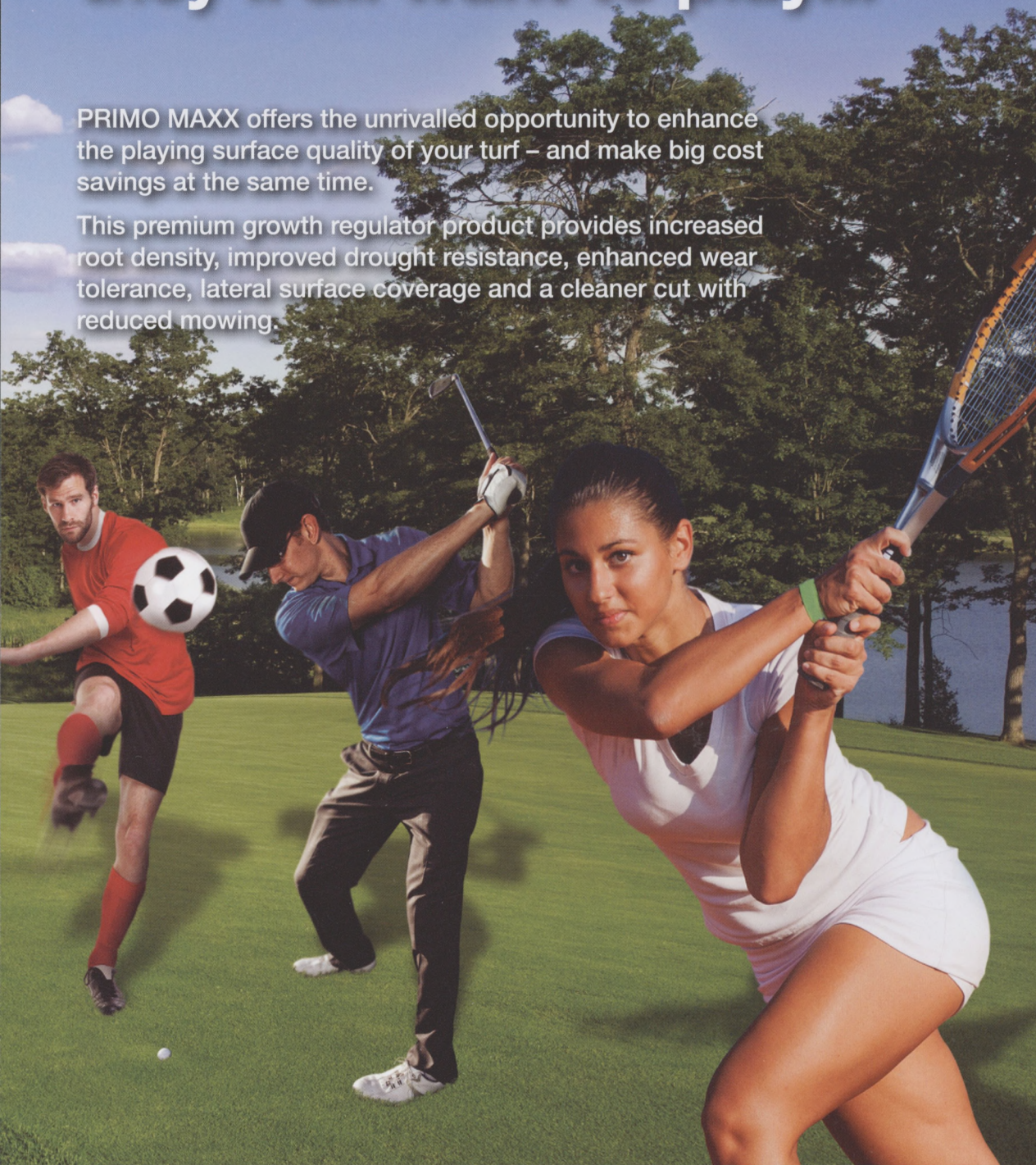
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## COVER STORY FOSTER UP FOR THE FIGHT 6

To say the past 24 months have challenged Jason Foster's resilience and spirit on both a personal and professional level would be a gross understatement. There wouldn't be many who have had to endure what Foster has been through. First, in January 2018, a freak workplace incident left him with life-altering injuries. Then, a little over a year later, his course – Townsville Golf Club – was ravaged by record-breaking floods that hit Far North Queensland. Over two feature articles in this edition we track Foster's incredible journey to come back from adversity not just once, but twice, and still come out the other side a better person for it.

**Cover:** Townsville Golf Club superintendent Jason Foster. **Photo:** Brett Robinson.



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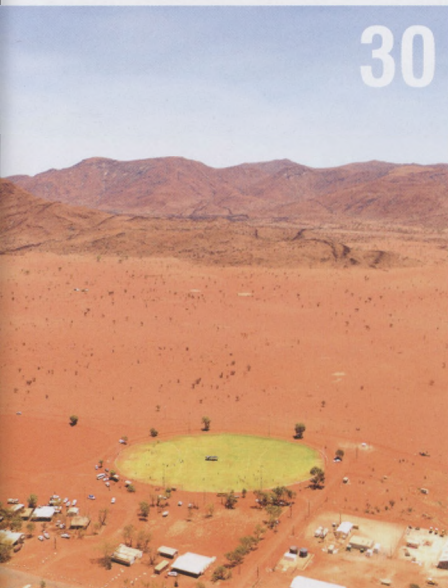




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### Contributors to Australian Turfgrass Management Journal Volume 21.6 (November-December 2019)

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# Covering plenty of ground

**A**nd so we come to the final edition of Australian Turfgrass Management Journal for 2019. While we only produce six editions a year, the amount of time and effort invested into each one is significant and many a late hour is spent in front of the computer to get each edition signed off (albeit often a tad behind the intended deadline, not that anyone needs to know that though).

Looking at this edition and back on the previous five this year, ATM has continued to cover a broad cross-section of stories and issues from many sectors of the industry. Whether it has been new golf course or arena developments, the latest research, or some of the very personal stories that members of the industry have shared, I am very proud of the content we have provided readers and subscribers over the past 12 months.

Among the highlights was last edition's extensive coverage of the Peninsula Kingswood merger and course redevelopment, one of the biggest spreads we have carried since the Warringah Golf Club pesticide spill saga back in 2003. Also from a golf perspective we covered the impressive Victoria Golf Club redevelopment and Lake Karrinyup greens resurfacing project, while the regional profiles took us from Yallourn in Gippsland, to Tuross Head on the NSW south coast and all the way to Cairns in Far North Queensland.

From a sports field viewpoint we covered Metricon Stadium's first season as a cricket venue, looked at the development of the new state-of-the-art Bankwest Stadium in Sydney and relayed the fantastic story of the GWS Giants AFLW players who had become an integral part of the maintenance crew at Sydney Showgrounds. We also covered the construction of Barnbougles new polo field and gained an insight into preparing the All England Lawn Tennis Club for its annual hosting of Wimbledon.

We celebrated the great successes of those crews hosting major tournaments and lauded our annual award winners. We applauded the life membership of Peter Lonergan at the Brisbane conference and the incredible honour bestowed upon Peter McMaugh after he received the Member of the Order of Australia (AM) for his services to horticulture and the turf industry. On the flip side, we also bid a sad farewell to some elder statesmen of the turf and golf industries, among them Tasmanians Bill Casimaty, Ted Gilligan and amateur golfing legend Peter Toogood.

This last edition continues the trend of covering plenty of ground. It has a distinctive FNQ feel to it with features on the new North Queensland Stadium and Townsville Golf Club superintendent Jason Foster's remarkable 24-month period and the challenges he has faced both on and off the course. You may recall that at the start of 2018 Jason was involved in a terrible workplace accident which left him with severe burns. His story leads this edition and I am sure you will agree it is both confronting and inspiring. We also look at the multi-million dollar redevelopment of the Elwick racetrack in Hobart and relay the fantastic story about the grassing of an oval in remote South Australia that has become a major asset for the local Aboriginal community.

In signing off for 2019, I would like to personally thank all those turf industry members who have contributed to these pages over the past year. Your efforts, whether it's just a few paragraphs in response to an email seeking feedback on a particular topic or a full-length feature, are always greatly appreciated and help to create the fabric that is this industry journal. To all our loyal advertisers, thank you for supporting the journal; it is a significant investment you make each edition and across the year and it doesn't go unnoticed. And, of course, to the readers – thank you for your comments and feedback throughout the year. I'm always open to new story ideas so please do not hesitate to contact me.

Here's hoping the summer ahead is kind for all and you get some time away to share with those who matter to you most. Righto, I'm off to the Presidents Cup to give Patrick a bit of a rev up. Enjoy the Reed...



Brett Robinson, Editor





# Strategic plan outlines ASTMA blueprint for coming years

In late November, the Australian Sports Turf Managers Association (ASTMA) and board met with all state golf course superintendent association presidents as a regular planning discussion around the year ahead.

These are always a good few days of conversation and developing the strategy for national and state activities and priorities, as well as giving each association the opportunity to share both their challenges and areas of focus for the year ahead. These sessions are always productive, working through alignment of the many activities around education, training and member engagement for 2020.

The ASTMA presented a draft of our three-year Strategic Plan for each state to review, with time spent ensuring alignment at a national level to the activities and areas of importance for the states. As each state's feedback is reviewed and incorporated, a final Strategic Plan will be circulated to ASTMA members early in 2020.

One critical element that came out of the review was around the challenges that are common across almost all regions – the forecasted summer ahead, water management and continued education to members at all levels. These will remain an area of focus for the ASTMA in supporting the activities at a state level, advocacy for the industry at a national level and are also forming significant parts of education component at the 2020 conference in Melbourne.

## EDUCATION FOCUS

Working with each of the aligned state associations, in October we delivered a number of Environmental Management Seminars in Launceston, Adelaide and Melbourne, with more to come early next year.

Held in conjunction with ASTMA Gold Partner Syngenta, the free seminars gave the likes of golf club horticultural staff, including 2019 ASTMA Claude Crockford Environmental Award winner **Bivek Inderjeeth** (Eastern GC), the chance to showcase the great work being achieved at their clubs. ATM environmental columnist **Kate Torgersen** also presented at these seminars, discussing strategies golf clubs and turf facilities can employ to plan and implement environmental and vegetation management programmes.

The ASTMA also undertook the first of its Professional Development Seminars across six states. The first series focussed on Microsoft Excel Development and over the course of the



## Australian Sports Turf Managers Association

next six months the ASTMA will be facilitating a further five topics in a series of face-to-face workshops and training modules. These seminars are designed to develop the core skills needed by turf managers in the modern workforce and feedback from the first series has been overwhelmingly positive.

In a further exciting announcement for the turf industry, recently the ASTMA unveiled that it has partnered with The R&A to deliver a scholarship to sports turf management students. In what is a significant win for the sports turf management industry in Australia, the launch will be a pilot programme in conjunction with Melbourne Polytechnic.

Scholarships will be available to students studying for their Diploma of Sports Turf

Management and any student studying for their Degree in Sports Turf Management. The funding provided to successful students through The R&A scholarship can be used to assist with tuition, educational tours, a placement year or to help further a research or specialist project as part of their studies.

The trial will run for 12 months to assess the approach and process within Australia, with the longer-term vision to roll out the programme nationwide in 2021. More information on The R&A scholarship is available on the ASTMA website.

And speaking of opportunities to further expand knowledge, it was with great pleasure that the ASTMA had in informing the four successful applicants for the John Deere sponsored TPC Volunteer Program. As profiled in this edition, ASTMA members **Tony Gordon** (The National GC), **Luke Helm** (Meadowbrook GC, Qld) and **Tim Hoskinson** (Cairns GC) will join with NZGCSA member **George Flynn** to spend two weeks at TPC Sawgrass in Florida as part of the course crew for 2020 Players Championship. The quartet were chosen after a thorough selection process and we wish them well for their trip next March. They will be posting about their experiences on social media and following up with presentations on their trip.

## ASTMA WELCOMES PAM AND KEALLY

Since the last edition of Australian Turfgrass Management was sent to members, the ASTMA has welcomed two new members of staff to Clayton HQ in September and October. **Pam Irvine** (pictured below right) and **Keally Nankervis** (pictured below left) have joined the crew in part-time roles. Pam fills the role of exhibition and event coordinator, initially assisting Simone Staples with the upcoming 2020 Melbourne conference, while Keally is the association's new social media and communications coordinator.

Keally is American and hails from the state of Georgia, home to the famed Augusta National Golf Club. She has a professional background within recruitment, customer service, office management, marketing and design, which she has gained from her roles both in Melbourne and overseas. She relocated to Melbourne in 2013 and lives with her husband and three-year-old daughter. Keally will be working two days a week and

can be contacted through the office on (03) 9548 8600 or email [keally@agcsa.com.au](mailto:keally@agcsa.com.au).

Pam, who earlier in the year went on a safari trip to South Africa, is originally from Canada. She is very organised, values the customer experience and is looking forward to getting to know as many members and trade partners as possible in her new role. Pam works Wednesdays and Thursdays and can be contacted on (03) 9548 8600 or [pam@agcsa.com.au](mailto:pam@agcsa.com.au).

On behalf of all members, the Australian Sports Turf Managers Association extends a very warm welcome to both Pam and Keally.







## EDUCATORS, NTEWG CONVERGE ON CAPITAL

It has been a big year for turf management education in this country. As highlighted in the last edition of ATM (Volume 21.5 – September-October 2019), the sports turf management training package was endorsed, with National Turf Education Working Group co-chair **Albert Sherry** outlining the major changes.

This new package represents significant generation change for the Australian sports turf industry and something that was achieved through the whole of industry working together.

As they have done every December for the past 13 years, sports turf management educators and industry representatives from across the country met recently as part of the annual National Sports Turf Validation Meeting. Hosted by **Bruce Davies** and the team at Canberra Institute of TAFE, over 40 delegates (pictured above) attended the two days with all sectors of the turf industry represented.

This year was a particularly important event due to the recent training package endorsement. 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.

– **Simone Staples**

I would like to take this opportunity to pass on my thanks to our members for their continued support throughout the year. We have had a year of significant progress for the association, delivering over 50 education events, a widely successful national turf conference in Brisbane, re-branded the association to be more representative of our growing membership, brought in three new staff members to help deliver on the strategic plan in the years ahead and have continued to work toward a stronger, united and more effective industry.

I'd also like to acknowledge the hard-working ASTMA staff for their continued work over the past year and embracing significant change as we move forward, and also a very large thank you to each and every one of

our invaluable trade partners and industry sponsors. What we do for our members and the industry wouldn't be possible if it weren't for the continued support you provide ourselves, the states and all sports turf managers.

Finally, with the continuing challenges for many sports turf managers at present – the below average rainfall in many parts of Australia, extended periods of drought, widespread bushfires and freak storms – I encourage each of you to ensure that you are looking out for the health, both mentally and physically, of your teams, yourself and peers throughout the summer ahead.

Wishing you and your families all a very Merry Christmas and a safe and prosperous 2020. 🌿





Jason Foster has had to dig deep and learn a lot about himself as a result of the personal and professional challenges that have been put in front of him over the past two years. Inset: Foster pictured shortly after coming out of an induced 12-day coma during which time he had three skin grafts following the sewage treatment plant explosion



# Up for the fight

*To say the past 24 months have challenged Jason Foster's resilience and spirit on both a personal and professional level would be a gross understatement. In fact, there wouldn't be many who have had to endure what Foster has been through. Over two feature articles in this edition, ATM editor Brett Robinson track's Foster's incredible journey to come back from adversity not just once, but twice, and come out the other side a better person for it.*

Jason Foster sits across the table in the Townsville Golf Club smoko room, clenching his sizeable hands into fists – first the left one, then the right, then the left again, then the right again. He's not nervous or anxious, or about to clock one of his staff. Rather, it is something that has become second nature to him over the past 20 months, a constant and necessary ritual

Foster's hands serve as a stark reminder, not that he needs it, of that fateful day in early January 2018 when his life forever changed. A freak workplace accident at Townsville Golf Club – an explosion at the on-site sewage treatment plant which supplied the course's irrigation water – resulted in Foster receiving serious burns to a third of his body.

It was headline news in Townsville and around the country at the time, and the turf industry reacted in shock as members processed the news that one of their own was fighting for his life. For 12 days the then 43-year-old was placed in an induced coma as specialists in Brisbane worked frantically around the clock to salvage what skin they

could, as well as perform three major skin graft operations to repair the worst affected areas.

The confronting photo, inset opposite, is what Foster looked like hours after he was brought out of his coma. You can see the line on his forehead where his hat was, the blistering skin on his forehead and the breathing and feeding tubes. As he quips, he wasn't looking his best that day but at least he was alive.

wonders of modern medical technology, Foster was given the best possible chance to make a full recovery. And he pretty much has.

Normally it takes over two years for people with the extent of Foster's injuries to even entertain the thought of returning to work. Beating the odds, he needed just five months to start making a gradual return and this October, some 20 months after the explosion, he finally recommenced full-time hours.

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*“I've seen the bright orange flash, looked down and my shirt was gone. I looked at my hands and the skin was literally dripping off them; it was then that I knew I was in trouble.”*

*- Jason Foster*

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In the weeks that followed, his doctors would convey to him the gravity of what had occurred and the extent of his injuries. Had the explosion happened 20 years ago, he'd likely be dead. Ten years ago, maybe a 50-50 chance of surviving. Thanks to advances made in the treatment of serious burns and the

It has been a remarkable recovery and with the support of family and friends, his club and crew mates, Workcover, all the doctors, specialists and therapists, not to mention a healthy dose of stubborn determination, Foster is living proof that you can overcome almost anything with a positive mindset.





*Foster has been indebted to his crew who have stepped up during his rehabilitation and gradual return to work. To Foster's left are mechanic Craig Drennan (Doc), Rohan Fryer (Boots), Zak Holm (Itchy), Barry Adams (Hackles) and Darryl Lynch (Daz)*

## IN TROUBLE

11 January 2018 had started just like any other day for Foster. The heat and humidity at that time of year in Far North Queensland is oppressive and the Townsville Golf Club crew were in early to get as much done before the heat kicked in. Foster had sent the crew out on their daily runs and after attending to a few matters inside the shed made his way out on the course himself.

Up until that point, for the past 40 years the club had relied upon treated effluent water for its irrigation. Uniquely, the course had its own sewage treatment plant in the northeastern corner of the property, right on the banks of the Ross River.

As Foster attests, it was a temperamental thing and since he had arrived at the club as superintendent in 2011 had more than given him a few headaches due to its ageing infrastructure. In the year leading up to the fateful explosion, it had been a continual source of complaints from residents in the nearby suburb of Rosslea. The Queensland Department of Environment and Science even became involved, slapping an Environmental Protection Order on the club due to the bad odours emanating from the plant.

Part of Foster's remit as superintendent was to make daily inspections of the plant to make sure it was operating correctly. Before

Christmas 2017, a new pump had been installed to supply water into the treatment plant from the council line. However, there had been numerous teething problems and copious hours were spent trying to rectify why the new pump was continually shutting off. Foster even spent half of Christmas Day on course trying to get it to work.

Just before 7am on the 11th, Foster had again made the well-worn trek to the treatment plant. Sure enough the overflow weir was low, indicating that the pump had again shut off overnight. Making his way around to the pump station, he put his hand out to open the gate and the next thing there was a bright orange flash and a loud bang. A build-up of methane gas had ignited and Foster copped the blast full force.

"I can recall everything vividly," says Foster, still doing his hand exercises. "I remember looking down and my polyester shirt was gone – melted – and then I looked at my hands. The skin was literally dripping off them and it was then that I knew I was in trouble.

"I remember looking around and thinking I had to get fresh water on me quick. I looked at the tap at the plant, the river and then back to the clubhouse about 500m away and knew there were showers in the locker rooms. I jumped in the Workman, which has our spreader on the back of it, and took off.

"Arnie, my assistant at the time, was working on an irrigation box nearby and as I drove past I screamed at him to call an ambulance. It was a manual Workman and I had to change gears and I remember looking down at my hands again and seeing the skin sticking to the gear lever and the steering wheel. Bubbles of blistered skin on my legs, the size of tennis balls, started to appear.

"I got to the clubhouse, undressed and stood under the shower. I'll never forget the moment that poor Arnie walked around the corner and saw me for the first time – he was in just as much shock as I was. I just kept running cold water over myself until the paramedics arrived which probably helped to save my life.

"Up until then I hadn't really felt much pain because of the adrenaline, but when I was under the shower that's when it really kicked in and I started shaking and going into shock. They put a needle in my arm and the next thing I remember is waking up 12 days later."

## SKIN DEEP

Foster's condition was dire. Transported to Townsville Hospital, his body started to blow up and it took doctors 24 hours to stabilise him. Placed into an induced coma, Foster was then prepared for a mercy flight to the Royal Brisbane and Women's Hospital, home to the



Professor Stuart Pegg Adult Burns Centre, one of the world's leading burns treatment facilities. Somewhat fortuitously, one of the nurses at Townsville Hospital had worked at the burns centre and knew exactly how to prep Foster for his arrival there.

In Brisbane, it was determined that Foster had 'full thickness' (third degree) burns to a third of his body, with his hands and legs the worst affected. Full thickness burns destroy both layers of skin – the epidermis, or outer layer of skin, and the dermis which is underneath the epidermis and contains connective tissue, sweat glands and hair follicles. Outside of that, half his body had the skin stripped off, much like a "severe chemical peel" as Foster puts it.

While in his induced state, Foster underwent three significant skin graft operations. Doctors meticulously grafted skin from his legs onto the tops of his hands and areas between his thumbs and palms. They also did a remarkable job to save the skin on his face without the need for skin grafts, and looking at Foster now you would hardly know the trauma his face has been through.

While in the coma, doctors had braced Foster's parents, then wife Cas and their two boys Jacob and Ollie for the worst. There was the distinct possibility that he might not make it. As he was in a coma, they couldn't determine whether he could see, hear, smell, taste or have any sensation. Foster's mother would later relay to her son that his hearing was never an issue because at one stage he had tried to sit up after hearing the voices of his family.

They were told he could lose his fingers if the grafts didn't take and there was, of course, the constant risk of infection due to the many



*Foster received 'full thickness' burns to a third of his body, with his hands among the worst areas affected. Multiple skin grafts and countless hours of rehab have meant he has nearly full movement in his hands, with his left pinkie finger still experiencing limited function*

open wounds all over his body. As such Foster was housed in an isolation ward and had to have the room at a certain temperature to aid the skin's recovery. In addition to some pretty serious pain medication, Foster also had a feeding tube directly into his stomach and was force-fed a nutrient-rich liquid diet – up to three-times the normal calorie load – to help regeneration of his skin.

It took Foster two days to fully wake up from the induced coma and with it came the gradual dawning of what had just happened and the prospect of a long rehabilitation



ahead. Hardest of all though was seeing his family and knowing the heartache they must have gone through over those past 12 days.

"That photo of me taken just as I've come out of the coma looks worse than how I felt," explains Foster. "I was pretty high on



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*Out of the whole experience, Foster says he feels a lot stronger mentally and more aware of his strengths and weaknesses as a person*

pain medication at that point. I think that time was much harder for everyone around me, especially the kids. (Eldest) Jacob was a rock during that time and he would come and visit me every day while I was in the coma. Ollie could only see me once as it was too confronting which was totally understandable.

"It was very hard on them to see me in that state. But in a way it was also something that turned into a positive. It showed them that it doesn't matter what happens in life, no matter what adversity you go through, you can get through anything by fighting hard and staying positive. So maybe in a roundabout way it has helped to mature them a little bit as well."

## RECOVERY ROAD

Once the skin grafts on Foster's hands had taken and the patchwork quilt that were his legs had recovered, so began the long and painful process of rehabilitation. The new skin on his hands was the primary focus and from the very first operation had to be continually stretched in order to get full mobility back into his hands.

He was given multiple exercises to perform as well as endless physio. At times the pain was unbearable, but true to his character Foster pushed himself and did more than what was demanded of him. At one point the doctors had to tell him to back off a little.

He had to learn how to put on and take off his compression garments that for the next 18 or so months would become (pardon the pun) a second skin for 23 hours a day. Foster remembers it took him two-and-a-half hours initially to do it himself, but he was determined

to do it as the incentive was that if he could the doctors would allow him to go home.

Throughout his recovery, Cas and the boys had uprooted their lives and moved to Brisbane, staying in a unit near the hospital that had been provided through Foster's Workcover case. They visited him every day, attended his rehab sessions and helped him with his compression garments. Both kids missed a term of school in order to be by their dad's side, but come April 2018 Foster was given the all clear by doctors to return home to Townsville.

Once home he continued his rehab religiously – physio 2-3 times a week, regular psychological counselling (more on that aspect below), GP check-ups and, of course, the endless stretching exercises which are

still very much a part of his daily routine. He now no longer has to wear the compression garments – a relief considering Townsville's hot and humid climate – and the physio sessions have come to an end.

With the support of Workcover and Townsville Golf Club, Foster gradually started getting back to work, albeit on very limited duties and hours. Working even just a few hours a week initially was something incredibly important for Foster as part of his recovery. Doctors initially told him it would be two years before he'd get back to work, but he was back at the club in late May 2018 and just this October resumed full-time hours some 20 months after the incident.

Looking back at his rehabilitation and asking him what he thinks has been the



*Due to the new skin on his hands being very delicate, Foster has to be more mindful of not damaging it during manual work out on the course or in the maintenance facility*



toughest aspect of his recovery, Foster's response is surprising: "In a way I feel like I've cheated a little," reflects Foster. "I don't think the whole recovery was that hard. I simply just had to do what the doctors were telling me – do my exercises and do anything to get my body right again.

"Workcover has been fantastic and I can't speak highly enough of my case manager. They have done everything to get me back to work as they could see that I wanted to do so as quick as possible. And they and the club supported me to achieve that. Getting back to work and into a normal routine again definitely helped with my sanity.

"I can now do pretty much everything that I could before. The only impairment I have is with my left pinkie finger. The tendons have fused in the wrong spot so it doesn't work properly. Unfortunately that has affected my golf swing!

"With my skin, I just have to be much more aware. I can't be too long out in the sun for obvious reasons. The new skin is like baby skin, so basically you have to treat it as such. With the intensity of the sun up here, you wouldn't have a baby exposed to it without protection, so I use a lot of sunscreen, wear long-sleeved shirts and big hats. I've been told the new skin is three times more likely to



Getting back to a job he loves has been a critical aspect of Foster's rehabilitation. Foster has only been back full-time since October, nearly 20 months after the accident

develop skin cancers, so I have to be much more sun smart than I was before.

"I also have to be careful when using my hands. I've essentially got baby hands now – all the calluses were burnt off – and

the skin is very thin and cuts very easily. So things like sharp edges, slipping spanners, even changing holes and pulling soil out of the bottom of a cup, I just have to be a lot more mindful when approaching those tasks."

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*During his recovery from the explosion, Foster had the added heartache and challenge of seeing his course severely damaged by floods in February. Despite being on reduced hours, he played a major role in its recovery*

## A STRONGER MAN

Speaking of mindfulness, while the physical scars of what Foster has been through are there for him to see, the whole incident has also had a lasting affect mentally. But not in the way you would think. Prior to the accident, Foster had never considered focusing on his mental health, but as part of his rehabilitation he attended regular therapy sessions which has turned out to be one the most rewarding aspects of his whole journey.

While at the burns unit in Brisbane, he had a trauma psychologist visit him regularly who opened up his mind to the benefits of exploring such therapy on a regular basis. Upon returning home, he continued with weekly sessions which he says has been hugely beneficial, not only to process what had happened but to also see things about himself and his life from a different perspective.

"It has been really enlightening," explains Foster. "I've never had to focus on my mental health like this before, but by going to regular therapy sessions and reading the so-called 'self-help' books, it really opened my mind up to stuff that I had never considered before and to understand the way I was thinking about things the way I did.

"I'm a lot more aware of what my strengths and weaknesses are now and have come to realise that what I considered to be some of my weaknesses were actually what other people perceived as my strengths. I definitely feel stronger mentally as a result which has been a great positive."

Finding that greater mental strength has certainly aided Foster on a number of levels, none more so than when he is confronted by triggers that remind him of the accident. One of the first things he did when starting

back working at the golf club was to make it a priority to revisit the treatment plant, which by this point had been decommissioned and was earmarked for demolition. Funnily enough, Foster says going back there wasn't a problem at all – he was so aware of what he was trying to do – but there were other occasions which snuck up on him that he wasn't prepared for.

"The thing I found the most difficult was actually going back into the locker rooms in the clubhouse and seeing the showers," explains Foster. "I'd had a couple of beers with some club members and went to go to the toilet. As I walked past the showers I got

*"I feel like I cheated in a way. The whole recovery didn't feel that hard. I just had to do what I had to do to get better – listen to the docs, do my exercises and remain positive. Whatever adversity you go through in life, there is no point dwelling on the past – you have to continually look forward."* – Jason Foster

flashbacks of where I had been standing with the water pouring over me. I wasn't prepared for that, so it came as quite a shock.

"It's all those little things that you are not ready for. I remember the first time back driving and I pulled up behind a truck transporting gas bottles. I looked at it and just started thinking about things, things that you would normally not even think about, but because of what had happened to me I did. The first time I turned on the BBQ and the burners ignited – little triggers like that. They're not debilitating in any way, but it just shows how your awareness of those sorts of things is heightened."

## GREAT SUPPORT

Nearly two years on now since the explosion, Foster is well along with his recovery. Although still technically under Workcover, he only needs to go to his GP for regular check-ups and is hopeful of his case being closed in the coming months. Foster will need to have one final assessment by a panel of doctors who will ultimately make that call, but given the manner in which he has approached his recovery that will hopefully be just a formality.

Reflecting upon what he has endured, Foster is extremely matter-of-fact about the whole episode. Those who know him well will attest he is a pretty hardy soul and not the sort of person to make a fuss. He admits he could never have gotten through this without the tremendous support of everyone around him, but at the end of the day it came down to having a positive frame of mind.

"I cannot thank everyone enough for the support they have given me," says Foster. "Right from the start when it happened, all the messages of support was overwhelming. The club members were and have been fantastic and have done everything they can to help me. The crew were amazing and stepped up in my absence. Even my old assistant Arnie stayed in my house and looked after the dogs while I was in Brisbane. What happened to me was pretty terrible, but I'm just glad it happened to me and not one of other guys on the crew. I don't think I could have lived with myself if it had been one of them.

"At the end of the day, you can't turn back time. There was no point dwelling on what had happened to me and that's pretty much how I dealt with it and approached my recovery. I

just picked the next task that I had been given and focused on that and did everything the doctors told me to do. I controlled what I could control, fought as hard as I could and made sure I stayed positive throughout. And that's got me to where I am now."

**Editor's Note:** As this edition was going to print, Jason Foster announced that after eight years at Townsville Golf Club he was departing as superintendent. Foster has been successful in gaining the head curator role at Riverway Stadium, Townsville's premier cricket and AFL venue. ATM wishes Jason all the best. 🏏



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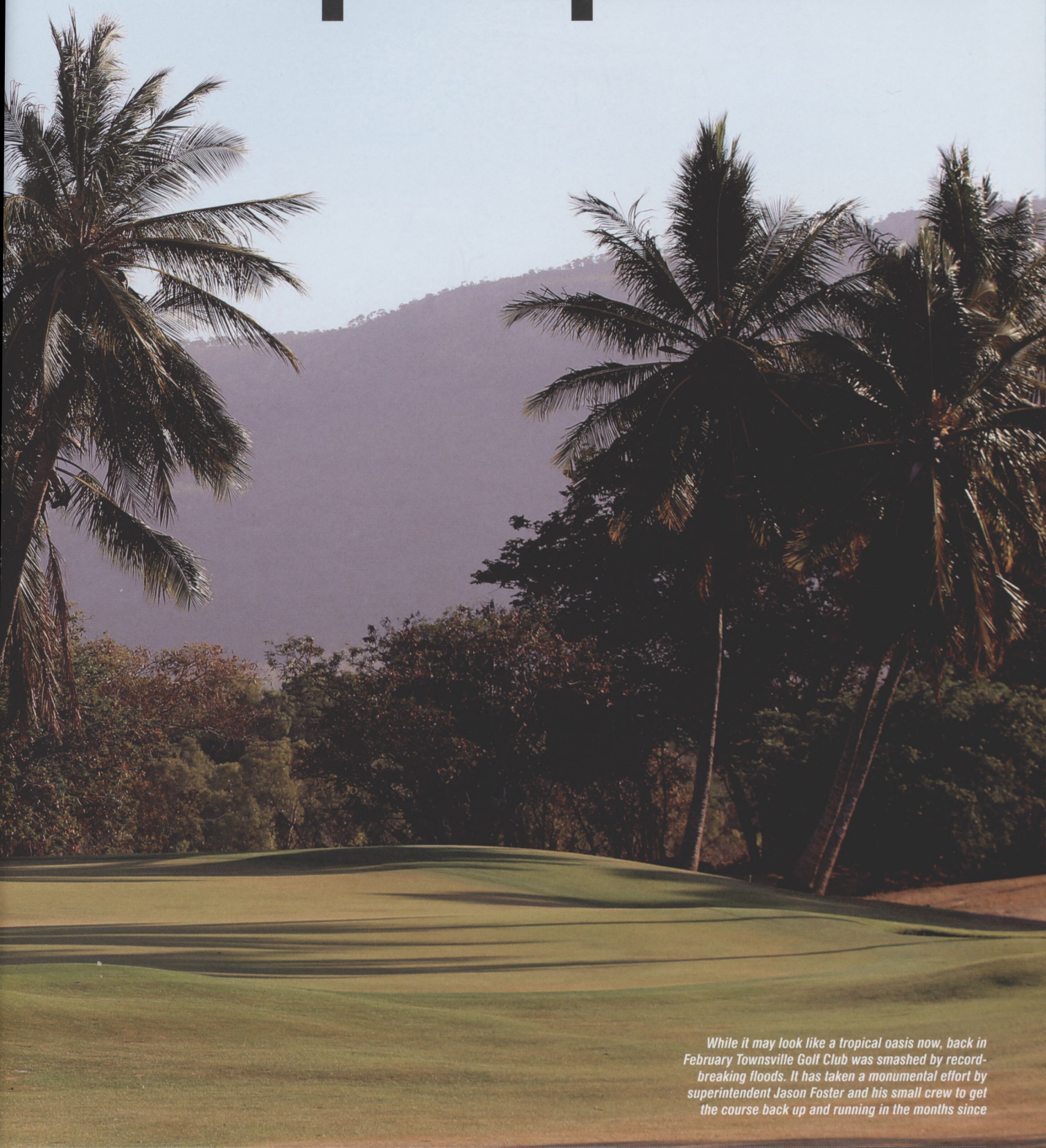


*All was tracking nicely for Townsville Golf Club at the start of 2019. It was the club's 125th anniversary, five new Bob Harrison-designed holes were weeks away from being handed over and the club's finances were looking up for the first time in a long while. Then came the floods...*





# Townsville GC back **up to par**



*While it may look like a tropical oasis now, back in February Townsville Golf Club was smashed by record-breaking floods. It has taken a monumental effort by superintendent Jason Foster and his small crew to get the course back up and running in the months since*





*According to the Bureau of Meteorology, the height of the Ross River at the Ross River Dam peaked at 42.99 metres, smashing the previous record set in March 2012*

**T**ownsville Golf Club superintendent Jason Foster isn't the sort of chap who minces words. Take the post on his Facebook page from 2 February 2019, at the height of the devastating floods which were ripping through Townsville at the time.

The post shows photos of Army personnel carriers and vehicles parked outside the front of his house in the suburb of Rosslea, rain pelting down and flood waters starting to inundate his street, one of the higher points in the area. Accompanying the photos is Foster's rather succinct assessment of the situation – "S\*\*t is getting real now!"

Up until that point, Foster, along with the rest of Townsville's 170,000-plus population, had watched on helplessly as the Ross River had slowly consumed the suburbs. Fed by record-breaking rains that had drenched the river's 760 square kilometre catchment (nearly 1400mm over a 13-day period, including a single-day high of 216mm on 1 February), authorities had no choice but to open the spill gates at the Ross River Dam on the town's outskirts.

At its peak, the height of the Ross River at the dam was an incredible 42.99 metres, smashing the previous record of 40.73m set in late March 2012. The dam reached a capacity of 244 per cent and when the spill gates were fully open around 1900 cubic metres of water a second was sent spewing downstream towards the city.

Townsville Golf Club, literally just 100m metres away from Foster's back yard and located right on a bend in the river, had started going under a few days earlier. No stranger to flood events – the course had been inundated in 2012 – Foster and his crew did what they could to prepare for it and then waited it out. But as soon as his house started to come under threat and the Army moved into his street, Foster knew this was no ordinary flood event.

Indeed, his ex-wife Cas and their kids Jacob and Ollie, who lived on the other side of the river, had already been evacuated,

ferried to safety in the back of a dump truck that had to be towed out by a grader due to its high engine mount. Then news came through that workmate and course mechanic Craig Drennan had lost everything after a metre of water had gone through his house.

Foster started making preparations at his own place, putting things up high and waiting for the inevitable. Flood waters would cover his front and back yards, while the bottom two bedrooms had a small amount of water through them. Compared to many others around him, Foster had dodged a bullet; the same couldn't be said for the golf course.



*The club was just weeks away from having five new holes as part of the redevelopment handed back. The site of the new 2nd green, where staff members Zac Holm (left) and Rohan Fryer are standing, was washed away*





*After a remarkable effort by course staff and volunteers, 13 holes were back in play for members a month after the floods*

## BACK TO SQUARE ONE

The start of 2019 was a period of great excitement and anticipation for Townsville Golf Club, its members and for Foster and his team. Recognised as the oldest in Queensland and the fourth oldest in the country, the club was celebrating its 125th anniversary. The club was also midway through a major course redevelopment under the auspices of course architect Bob Harrison.

Originally a 27-hole layout, the club had sold off nine holes for residential development but to not only alleviate some financial hardship but to fund the revitalised 18-hole masterplan. The course redevelopment was planned over three stages – eight holes in the first stage and then two stages of five holes each. The first stage was opened in February 2016 and throughout 2018 Sydney-based construction company Flemming Golf had returned to complete new holes 1, 2, 9, 10, 18 as well as the practice fairway. Agonisingly, the club was just two weeks away from having those holes handed over when the floods hit.

Not surprisingly, those holes, which were nearest the river, were the worst affected. The 2nd green (see photo bottom opposite page) was completely washed away, prompting Foster to post on Facebook – “If anyone finds the 2nd green, please return it to Townsville Golf Club”. Two other new greens – 1 and 10 – also suffered a similar fate, washed out down to the sub-base, as was the tee on the future 3rd hole which jutted out into the salt marshes.

The two greens that weren't washed away had silt deposits up to 30mm thick.

The lake beside the new 10th green almost tripled in size from the washout and water travelling through the area, while the fairway was reduced to an expanse of rock and sand. Strips of turf up to five metres long and two metres wide were rolled up like mattresses and deposited randomly about the place, while irrigation pipework and sprinklers across all the new holes were left high and dry out of the ground.

“Watching the flood waters gradually cover the course, there was little we could

do,” recalls Foster, superintendent at the club since 2011. “We had plenty of warning, so we carried out our cyclone prep and then just watched on as the water levels rose higher and higher and higher. I’ve seen floods before up here and when I worked on the Gold Coast, but nothing like this.

“It was devastating to see. What made it harder to stomach was the course was in great condition before the floods. We were so close to having a full 18-hole layout back in play and the future was looking bright off course too.

“I’ve never seen greens and bunkers washed away like that before. The grass



*Townsville is midway through a course redevelopment. The first stage (eight holes) was completed in 2016, with the reinstated second stage (five holes) to open in February. The third and final stage will also comprise five holes*



on those new holes wasn't established well enough, so it had no chance of holding. We just shook our heads and knew we would have to start those holes all over again, but we couldn't worry about them at the time. Our immediate priority was getting the other holes back in play, cleaning the greens off and clearing what debris we could. The club is such a big community asset. It employs 20-odd people and has over 1000 members, so it was important to get it open as quickly as possible to restore a bit of normality."

### WIDESPREAD DAMAGE

While the new holes were an immediate write-off, the rest of the course and clubhouse facilities didn't fare much better. All up every green, with the exception of the 13th (closest to the maintenance facility) went under. All but three tee complexes were submerged and every inundated bunker was completely stripped of its sand.

The pump shed, which had only been serviced a few weeks earlier, was severely damaged, with all motors and electrical board components needing total repair or replacement. The club's irrigation partners Aquaflow were on site within days and reworked the pumps to allow irrigation to the greens, albeit with limited pressure and lots of manual labour due to the irrigation boxes suffering damage as well.

The downstairs area of the Townsville clubhouse had a metre of water through it, while the upstairs amenities, including the bar and administration areas, were badly affected by rain inundation. (Remarkably, the bar was back up and running by 28 February in time for the club's AGM!). The pro shop had 650mm of water through it, while the club's extensive cart storage facilities all went under, a total of 116 member carts and the club's fleet of 40 damaged beyond repair.



*Townsville's TifEagle couch greens have recovered remarkably well, but will be monitored closely for any long-term flood effects*

Although waters lapped at the concrete slab, mercifully the club's maintenance facility – just 75m away from the river – and machinery fleet was spared. Not only did that greatly assist with getting the eventual clean-up of the course underway quickly, it also meant that the club could help out local residents, many of whom had their lives turned upside down.



While they waited for the floodwaters to recede, Foster and his team were able to use their tractor, bobcat and truck to assist the Army and Police with their relief efforts. That included helping out residents in the new Fairways development located in the middle of the golf course. Sadly, many of the brand-new homes there were flooded out, with some residents having only moved in a few weeks earlier.

Once water levels dropped enough, Foster and his crew, together with an army of member volunteers, then started the arduous process of cleaning up. Silt was scrapped, dragged or hosed off the TifEagle couchgrass greens as a priority, while the painstaking work of tidying up all the flood debris, repairing irrigation infrastructure and salvaging what components they could began in earnest.

Some fairways had sand deposits of up to a metre deep in parts, while numerous sink holes had also appeared across the course. Around the bases of trees, soil had been scoured out down to a depth of 1-2 metres, while coconuts – hundreds of them – littered the course.

Staff also made a couple of unusual finds as they went about their clean-up work. Eleven barramundi, some up to a metre long, including a couple of live ones, were discovered deposited in bunkers, along with two giant mud crabs!

Initially looking at a minimum of three months to get the course back in play, thanks to the monumental efforts of the course crew and volunteers, 13 holes were back in play by 2 March, exactly a month to the day when flood waters had peaked.

Although it wasn't pretty around the edges, it was open and provided the members with the chance to come and have a long-awaited hit and forget about their troubles for a few hours at least.



*After reopening the course, attention turned to getting the five severely damaged new holes reconstructed and grassed. Pictured top is the state of the 2nd green a week after flood waters had subsided and, above, the newly shaped and sprigged green in November. Flemming Golf handed the new holes back to the club in late October*



"It took a lot of effort by a lot of people," says Foster, who at the time of the floods was still on reduced hours recovering from the previous year's treatment plant explosion (see 'Up for the fight', page 6-13, for more on this). "We were without power for the first seven days and had no pumps or irrigation system. The greens were our main priority and we just used shovels initially to remove the silt.

"One of the problems we experienced was disease outbreaks due to the high humidity and the water. And at the same time we were getting localised dry spot on those parts of the course that hadn't been flood-affected because we didn't have any irrigation! It was horrendous. After we got the greens cleaned up we capped all the exposed irrigation so it didn't blow out and we could start putting pressure back into the lines, testing all the boxes and slowly turn everything back on.

"The TifEagle greens recovered very well. We shovelled and broomed and eventually we tapped the irrigation system back into the town water supply and were able to hose them off using QCVs. It was probably about eight days after that we finally got a mower out on some of the greens. Heights of cut were lifted and we also put the Pro Core across them and gave them a little dethatch to break up the silt and get some air into them."



*The club has benefitted from Queensland Government grants to assist with getting the course cleaned up and reinstatement works. Pictured is the newly constructed 3rd tee which had previously been washed away*

## WATER WOES

It wasn't until after those holes were back in play that the club could then turn its attention to the five new holes that were so badly damaged. A meeting was held in April between the club, Flemming Golf and Bob Harrison and together a plan of action was hatched.

Thanks to the club receiving flood recovery grants from the Queensland Government, which also went towards the clean-up of the course, Flemming Golf began reinstatement works in September. The five holes were

handed back to Foster and his crew in late October for grow-in and it is hoped they will be ready for play by 1 February. With the heat and humidity of the wet season approaching, Foster knows the surfaces will close over pretty quickly and the crew will be doing everything they can to push the surfaces along.

While the new holes are growing in well, they have placed the club's meagre water resources under significant pressure. As a result of the sewage treatment plant explosion 12 months earlier and its subsequent

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*Foster cannot applaud his staff enough for the manner in which they have dedicated themselves to the task of resurrecting the course, as well as helping out the local community in a time of need*

decommissioning, the club lost its treated effluent supply which it had relied upon for 40 years. The club has had to tap into the town water network while it waits to be hooked up to an alternate supply from Alpines weir.

To add to the water woes, and in a cruel twist of irony, since the monsoonal conditions of January and February, Townsville has reverted back to drought-like conditions for much of the year. After totals of 461mm (January), 964mm (February) and 258.2mm (March), in the eight months from the start of April to the end of November, Townsville recorded just 75mm, less than a third of its historical average rainfall for that period. Between 13 July and 9 December, only 6mm fell. Admittedly it's the dry season, but that is inordinately dry for Townsville.

"Water is definitely our limiting factor at the moment," explains Foster. "Because we no longer have the treatment plant and rely on town water, we can only store one megalitre on site and fill our tank up once over a 24-hour period. With the bulk of the water being used for the grow-in of the new holes, we are limited

to what we can put out on the rest of the course. At the moment we have had to cut back to watering greens only which is a shame because the course had come back well from the floods and was looking good. But that's just something we have to deal with and part and parcel of it all."

*"The grass on the five new holes wasn't established well enough, so it had no chance of holding when the flood waters came. When we saw the damage we just shook our heads and knew we would have to start all over again."* - Jason Foster

### PULLING TOGETHER

As with any major natural disaster, a lot of lessons were learned during and after the February floods. In Foster's eyes there were a number of positives to come out of it, especially the manner in which the Army were involved. The Australian Defence Force has a large presence in Townsville, with the Army's Lavarack Barracks being the home of the

3rd and 11th Brigades. The Royal Australian Airforce also has a base in Townsville.

Foster says the Army did an amazing job working in with the Police when the flood crisis was at its peak. They handled everything from traffic management and evacuation plans and even went door to door to make sure residents were okay. Foster believes the whole country could learn from letting the military do what it does best in situations such as these and like many other Townsville locals he was extremely grateful for their presence.

Above all, however, Foster was most proud of the way his crew handled themselves during a difficult time and the way they rallied around to help the local community.

"Being such a small crew, what the boys achieved after the floods to get the course back open the way they did was incredible," says Foster. "Not only were they dedicated to getting the course back up and running, they also helped out the community a lot as well."

"The floods really put things in perspective and pulled the whole community together. When you saw the devastation around here and peoples' lives heaped up in a pile out the front of their houses, it made you realise that

some things are more important. We were able to use our machinery to help out around the community during a time of need.

"The golf club definitely gave something back to the community during that time and it was great to be able to give the guys the chance to do that and be involved. Looking back on it all, that was perhaps the most rewarding aspect of the recovery."



*Since the floods, Townsville has been extremely dry. Between 13 July and 9 December, nearly five months, Townsville's BOM station has recorded just 6mm*





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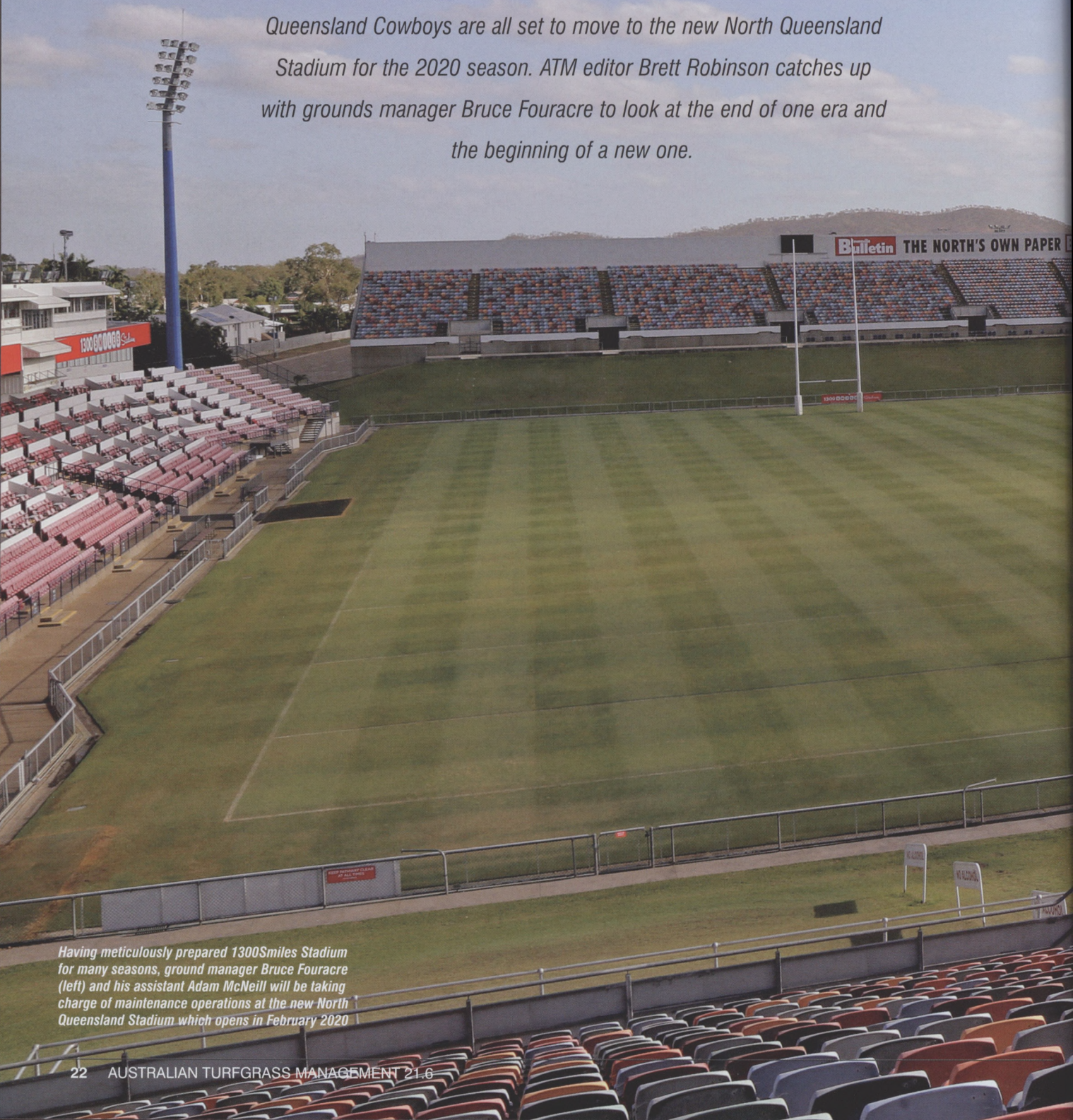
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# All smiles as NQS takes shape

*After 25 years based at 1300Smiles Stadium in Townsville, the North Queensland Cowboys are all set to move to the new North Queensland Stadium for the 2020 season. ATM editor Brett Robinson catches up with grounds manager Bruce Fouracre to look at the end of one era and the beginning of a new one.*



*Having meticulously prepared 1300Smiles Stadium for many seasons, ground manager Bruce Fouracre (left) and his assistant Adam McNeill will be taking charge of maintenance operations at the new North Queensland Stadium which opens in February 2020*



**B**ruce Fouracre recalls with a hearty chuckle the first few weeks of his tenure as curator at 1300Smiles Stadium when he arrived in Townsville 11 years ago. Having spent the previous 15 years working at the Sydney Cricket Ground (SCG) alongside good mate, and cricket curating royalty, Tom Parker, Fouracre was looking forward to carving a name for himself in what was his first ground manager's role. However, he was brought back down to earth rather quickly. Literally.

Within a few weeks of settling into his new surrounds, the stadium hosted a major national motocross event, with more than 400 tonnes of dirt dumped on the Greenlees Park couchgrass surface. It was October, it rained the night of the event and temperatures were well into the high 30s.

Fouracre clearly remembers the 'what have I got myself into' moment when they started pulling up the boards covering the ground and seeing (and smelling!) the cooked turf underneath. But getting down on hands and knees, he could see some green shoots



PHOTOS BRETT ROBINSON/BRUCE FOURACRE





The new 25,000-seat North Queensland Stadium is located in the heart of Townsville and features a horseshoe-shaped, cantilever roof inspired by the pandanus plant

starting to come through and he knew he had something to work with. As he has come to appreciate in the years since, Townsville is a “great place to grow grass” and within six weeks the surface was back to its pristine best.

That is just one of numerous memorable moments Fouracre has experienced at 1300Smiles Stadium, a venue that, in his words, “has been very good to him” over the years. However, on Thursday 29 August this year, the stadium, which has been home to rugby league’s North Queensland Cowboys since the club’s inception in 1995, hosted its last official NRL game. In front of 15,141 fans, the Cowboys bid farewell to 1300Smiles Stadium with a 15-8 win over the Bulldogs, a fitting bookend to the venue’s tenure given that it was the same opposition the Cowboys had faced in their very first premiership game there in 1995.

Come next year, what will be their 25th season in the ARL/NRL competition, the Cowboys will be based out of the brand-new North Queensland Stadium (NQS). The Cowboys will raise the curtain on a new era when they face Queensland rivals the Broncos in the opening round on 13 March 2020 in what will no doubt be a sell-out at the 25,000-seat stadium.

While it is a new beginning for the Cowboys and their loyal fans, it will also be a new one for Fouracre and his assistant Adam McNeill. Although still looking after the maintenance of 1300Smiles Stadium for the

interim while its future is decided, both will be transferring across to the NQS to manage the new arena surface.

Construction of the NQS, located adjacent to the Townsville CBD, began in August 2017 and as this edition was going to print works had just started on the pitch. The sub-grade, drainage and irrigation system had been installed, with the first maxi rolls of Eclipse stabilised turf with Greenlees Park couchgrass scheduled to be laid in late January.

“The new stadium is going to be a true multi-purpose venue which will be a huge asset in the heart of the city,” says Fouracre. “It’s sad to be leaving 1300Smiles Stadium, but it has served its purpose really well and made

attention. Going to a brand-new stadium is pretty exciting. I’ve never had that opportunity before and it will be a great chance to learn new skills and be involved in something new and something big.”

## A COMMUNITY FACILITY

While all the hype and attention is around the new stadium development, 1300Smiles Stadium bows out of its time in the spotlight having served the Townsville community steadfastly for many years. Located in the suburb of Kirwan, about 20 minutes east of the Townsville CBD, it has an interesting backstory in its own right, having hosted numerous sporting codes and events during its lifetime.

*“The new stadium is going to be a huge asset in the heart of the city. Going to a brand-new stadium is pretty exciting. I’ve never had that opportunity before and it will be a great chance to learn new skills and be involved in the start of a new era.”*

- Bruce Fouracre

a lot of people happy over the years. It gives a lot and doesn’t ask for much in return and has looked after me really well over the years.

“Being realistic, it was time for a change and probably the right time to move. It was getting past its ‘use by’ date a little and there were always things that were needing

It started out life as a harness racing track, known as the Willows Sports Complex, but with NSW Rugby League announcing that a North Queensland franchise would enter the then ARL competition in 1995, the complex was redeveloped in 1994. The reconstruction involved removing the elevated trotting track



and constructing a new playing surface and grassed spectator mounds behind the northern and southern ends. The existing western side grandstand (which has a distinctive bend in the roofline where the finishing post was) was kept and terraces constructed on the eastern side.

It was very much a community-based redevelopment and the story goes that the Cowboys players were involved in turfing the new ground and grass mounds, all up helping to lay some 12,000m<sup>2</sup>. Another story that Fouracre relays is that during one of their early games, which was badly rain affected, spectators started using the grass mounds as a makeshift 'slip 'n' slide'. Concerned about the damage being caused to their handiwork, the Cowboys players pleaded with fans to stop as they would be the ones who would have to repair the turf!

Rebadged as Stockland Stadium for the Cowboys' first competition season, it wasn't exactly a promising start for the fledgling franchise. Within six minutes of their opening home game against the Bulldogs, Cowboys centre Adrian Vowles was sent off, much to the dismay of the more than 23,000 spectators. The Cowboys went on to lose that game and by season's end would record just two wins from 22 games.

After the Super League saga in 1997 – Stockland Stadium incidentally hosted the very first game of the breakaway competition on 1 March between the Cowboys and the Adelaide Rams – between 1998 and 2013 the venue was known as Dairy Farmers Stadium. Management and operation of the ground transferred across to Stadiums Queensland in



*During Fouracre's 11-year tenure at 1300Smiles Stadium, it has been widely regarded as one of the best playing surfaces in the NRL comp*

2003 and during 2005 and 2006 it underwent an \$11 million refurbishment, with extra seating added, new lighting erected and corporate facilities updated.

As well as being the playing, training and administrative headquarters of the Cowboys, the stadium also hosted a multitude of other events. It held its first ever rugby league Test in October 2000 (Australia defeating Papua New Guinea 82-0) and hosted pool games during

the 2003 Rugby World Cup and 2008 and 2017 Rugby League World Cups. It has also entertained the likes of the Crusty Demons and Nitro Circus crews, staged numerous concerts including Elton John, Keith Urban and Cold Chisel, not to mention a plethora of local community sports events.

For two seasons – 2009/2010 and 2010/2011 – Dairy Farmers Stadium was also home base for the North Queensland Fury A-League soccer side. While the new franchise never reached great heights, eventually having its license revoked, the stadium's playing surface did and was adjudged as the second best in the competition in its first season.

Fouracre had arrived at the venue the previous spring in 2008. It was part lifestyle change – his son was just three-years-old at the time – and part career move as he was attracted to the opportunity to take charge of his first major venue. He bought a house some 200m from the venue and for the past 11 years it has been his second home. Six years ago he was joined by fellow Sydneysider and former SCG apprentice McNeill who he handpicked for the assistant's role. Like Fouracre, McNeill too bought a house just a stone's throw from the stadium.

## A SEASON TO REMEMBER

Both Fouracre and McNeill have witnessed plenty of sporting highlights on the ground they immaculately prepare week in week out, but none quite compare to what transpired during the 2015 NRL season. While the Cowboys made their first NRL grand final back in 2005, losing to West Tigers 50-6, it would



*1300Smiles Stadium was originally a trotting track, with the facility undergoing a major redevelopment in 1994 with the arrival of the North Queensland Cowboys into what was then the ARL (now NRL) competition*





be 10 seasons later when they finally broke through in the most dramatic of circumstances.

After dropping their first three games of the season, the Cowboys then smashed out what is still their longest winning streak – 11 matches. They would win 15 of their 16 matches between rounds four and 21, finishing the regular season in third place behind the Roosters and Broncos. They pipped Brisbane in the qualifying final 16-12, before trouncing the Sharks in the semis 39-0 at 1300Smiles Stadium. They then travelled south to AAMI Park and beat the Melbourne Storm by 20 points to progress through to an all-Queensland grand final affair against the Broncos.

If he wasn't already a local legend, Cowboys halfback Johnathan Thurston immortalised himself in NRL and club history on that evening, Sunday 4 October, at Sydney's ANZ Stadium. In what is widely regarded as one of the greatest NRL finals of all times, and just the second to ever be decided in extra time, the Cowboys pulled off the most improbable Houdini act.

Trailing by four points with 15 seconds of the game to play, the Cowboys were on their fifth and final tackle about 10m from the Broncos try line. After a poor pass from dummy half, Thurston regathered, fended off two Broncos tacklers before looping the ball to five-eighth Michael Morgan.

Morgan turned on the jets, drew three defenders, then threw a stunning one-handed pass to Cowboys winger Kyle Feldt who, taking the ball literally as the final siren sounded, ran in unmarked in the corner to tie the scores at 16-apiece. With a chance to win the game, Thurston agonisingly drilled his conversion attempt low and hard into the righthand upright.

Thurston, however, wouldn't be denied. From the kick off for the first period of golden point extra time, his Brisbane opposite Ben Hunt fumbled the ball, fatally turning over

possession on their 10m line. Four tackles later and the Cowboys had Thurston perfectly positioned behind play and he did the rest, clinically nailing the field goal from 20m to send the 82,000-strong crowd into hysterics. Thurston, who co-captained the Cowboys that night along with Matt Scott, lifted the Provan-Summons Trophy for the first time and was duly awarded the Clive Churchill Medal.

Fouracre recalls that season with great affection and how it galvanised the Townsville populous as the Cowboys went on their midseason charge to the finals: "It was an amazing time to be in Townsville," remembers Fouracre, a born and bred Dragons fan. "The buzz around the city for the whole month of finals was unbelievable. And then to win it in the fashion they did was remarkable.



*With the warmer months now upon Townsville, the new surface is ticking along strongly and will be ready for harvesting and laying in January. Pictured is the Greenlees Park couchgrass 12 weeks after planting*



*Fouracre, along with McNeill, helped to spread the Greenlees Park couch sprigs at Fortini Turf in mid-August. The sprigs were sourced from Twin View Turf on the Sunshine Coast and transported in a refrigerated truck some 1300km*

"When the team made the final and flew down to Sydney, the Townsville Bulletin newspaper printed a map of the route the team bus was taking to the airport. The streets all the way from the stadium to the airport were lined with fans farewelling the team. After they won, there were about 15,000 people waiting at the stadium to greet them when they got back. It was pretty cool to see the community come together the way it did."

## OUT WITH THE OLD, IN WITH THE NEW

It was in late 2016 that the Queensland Government, together with the Federal Government, Townsville City Council and the North Queensland Cowboys, announced that a new multi-purpose arena was in the pipeline for the city.

1300Smiles Stadium had initially been identified for replacement as part of Australia's bid to host the 2022 FIFA World Cup. Despite the bid ultimately failing, the new North Queensland Stadium (NQS) project was given the green light anyway, with Watpac Limited beginning its construction in August 2017 (see breakout panel on page 28 for more on the features of the new stadium).

The announcement of the new arena development was a bittersweet one for Fouracre and McNeill. While they would be going across to the new facility upon opening and overseeing the new playing surface, it also meant farewelling the old venue and wondering as to its future. It was also rotten timing for McNeill, who just days before the announcement had purchased his house literally 100m from the stadium gates!

While the future of 1300Smiles Stadium is still up in the air – Stadiums Queensland has yet to announce its plans – it will still very much be in use next season. Although the NQS will host all of the Cowboys' 2020 home games, 1300Smiles Stadium will remain as the club's administrative and training base until a new 'centre of excellence' is constructed adjacent to the NQS in time, it is hoped, for the 2021 season.





Fouracre has been closely monitoring the new pad's establishment and is looking forward to presenting the new surface for its NRL debut on 13 March

"We're in a bit of a funny situation," explains Fouracre. "Even though we held our last official NRL game in August, it wasn't like we locked the gates and just walked away. It has been business as usual since then and we still did everything we would normally do – aerating, scarifying and topdressing. We didn't switch off. We stayed focussed and made sure we kept it in as good a condition as possible.

"The Cowboys have started pre-season already and we will be making sure we have 1300Smiles Stadium in as good a shape as it was when it hosted premiership games. We don't want to drop the standards we have set here. The one thing they did do right at the very start was the construction of the playing surface. It drains incredibly well and I've never had to replace any turf which I'm very proud of.

"Long-term, I do hope the venue gets used properly and doesn't just go to waste. I don't want to drive past it every day and see tumbleweeds rolling through it. I'd be heartbroken if that happened."

## LAYING THE FOUNDATIONS

Local civil construction business Mendi Group was awarded the pitch works for the new stadium and partnered with HG Sports Turf (HGST) for technical guidance to deliver the new playing surface. HGST is project managing the construction of the surface, which got underway in late November, and the first rolls of turf will be laid in January in time for the stadium's public unveiling in late February and NRL debut on 13 March.

HGST has designed the pitch in conjunction with Melbourne-based field of play experts SportEng and is supplying its proprietary Eclipse stabilised 'ready-to-play' turf which has been growing locally at Fortini Turf. The new playing surface was established mid-August, with washed Greenlees Park sprigs transported 1300 kilometres in a refrigerated truck from Twin View Turf on the Sunshine Coast.

Due to its proven track record over many years at 1300Smiles Stadium, Greenlees Park was an obvious choice for the new surface and something that Fouracre was insistent upon when decisions were being made as to what variety to go with.

Establishment has steadily progressed and with the warmer months now upon Townsville the new surface is ticking along strongly. Fouracre has been a regular visitor to the turf farm during this time, documenting the establishment, and will continue to do so up until harvesting and laying.

Following completion of the turf installation, HGST project manager Josh Hanrahan will work with Fouracre and McNeill to assist with initial maintenance and renovation plans for the new surface. Additional turf will also be grown and maintained at Fortini's as a contingency.

The NQS gets its first public unveiling on 22 February when it hosts 'People's Day'. This will give the chance for the local population

*"It will be sad leaving 1300Smiles Stadium, but it has served its purpose really well and made a lot of people happy over the years. It gives a lot and doesn't ask for much in return and has looked after me really well over the years."* - Bruce Fouracre

After the 11,000m<sup>2</sup> plot at Fortini's was prepared with HG's Eclipse artificial fibre carpet laid on top of a geotextile backing, Fouracre and McNeill, together with turf farm employees, hand-spread the sprigs on 16 August. A mower was then run over the sprigs to help break them up and spread more evenly over the surface, followed by a layer of soil to help bed them down.

to test drive the new venue and its facilities. A week later Elton John will officially christen the venue as part of his 'Farewell Yellow Brick Road' tour, then 13 days later the Cowboys kick off their 2020 campaign against the Broncos. Interestingly, not all of the new playing surface will be laid prior to the Elton John show, with the stage area to be installed immediately after the concert has bumped out.



Remaining home games for the NRL season will see the Cowboys entertain the likes of the Eels, Storm, Bulldogs, Titans, Rabbitohs, Roosters, Knights, Sea Eagles, Raiders, Sharks and Warriors. The NQS is also scheduled to host the Opening Ceremony of the 2020 NQ Games on 9 April. This biennial event, the largest regularly run multi-sport event in regional Australia, will be held in Townsville from 10-13 April with over 3600 athletes from an anticipated 40 sports.

"It has been very interesting watching the new surface being planted and established," says Fouracre. "HG have been really good. Apart from helping with the planting, I haven't really had that much to do with it. I've left it to the guys there to grow-in and we'll be going across to the new stadium in mid-January.

"Once the new profile and turf surface is down, HG will be assisting Adam and I as we get used to maintaining it. I'll be listening to everything they tell me. No greenkeeper knows everything, so I'll be talking to as many people as I can. I've had a couple of good chats with Mal Caddies (Suncorp Stadium) as to what to likely expect.

"It's going to be exciting and challenging. It's not every day you move into a brand-new stadium, so it's going to be a big learning curve. We have seen a couple of shade models and from the looks of it one of the corners will be impacted a little. Going from a ground that has no shade to one where there will be some impact will be interesting. The intensity of the sun up here is very different, so I'm hoping that may alleviate any issues. The

stadium's horseshoe design and orientation means it has very good air movement through it, so that will be beneficial as well.

"I'm definitely looking forward to having a brand-new Rain Bird irrigation system, as well as some new equipment. We will be getting a new Toro 3575-D field mower, an aerator, as well as an Outcross utility. So we are getting some shiny new toys which sweetens the deal a little, as well as a more spacious shed which we're pretty happy about.

"We don't expect everything to be perfect when we move in. We'll just get in there and do our best to present the new surface to the best of our ability. We are going into it with an open mind. It's our new home and it's going to be great playing a part in the start of a new era for Townsville and the Cowboys." 🏈

## FACT FILE – NORTH QUEENSLAND STADIUM, TOWNSVILLE

**Background:** The North Queensland Stadium (NQS) is a joint project of the Queensland Government, Australian Government and Townsville City Council and is supported by both the NRL and the North Queensland Cowboys. The project forms part of the Townsville City Deal signed in December 2016.

**Location:** The new stadium is located within the Townsville City Waterfront Priority Development Area adjacent to the Townsville Central Business District, between Ross Creek and Saunders Street.

**Capacity:** The NQS will have a 25,000-seat capacity with the option to expand to 30,000 seats in the future. While the capacity is the same as 1300Smiles Stadium, the NQS provides 7000 more 'seats'. It can also accommodate up to 40,000 patrons in concert mode.

There are four primary seating areas in the new venue – Western, Southern and Eastern grandstands and the Northern terrace. The stadium will feature large plazas and landscaped green spaces. The grassed northern parkland and plaza will form part of the northern entry.

**Design:** The NQS features a horseshoe-shaped, cantilever roof inspired by the pandanus plant. The stadium roof will shade about 75 per cent of the seating, with generous overhangs over the concourse and main entry.

In place of traditional trusses, folded plates achieve the roof's 'pandanus' geometry. The folded plates provide strength to resist cyclonic wind loads and flexibility to allow the roof to expand and contract with tropical temperature fluctuation. The stadium faces north to catch the breezes

and allow panoramic views to the Townsville CBD, Castle Hill and Magnetic Island. Other features include:

- Standing terraces with views to the field of play;
- A 9-metre-wide concourse where patrons can walk the full 600 metres around the stadium;
- Sports lighting in the roof instead of light towers;
- 500,000 litres of storage for rainwater. Townsville City Council is working to connect the stadium to the recycled water network to help water the pitch and surrounding landscaped areas.

**Facilities:** A total of 88 external corporate boxes, 17 corporate suites and two major function rooms that can cater for up to 200 people when combined. Four player change rooms with dedicated wet areas, spa baths, warm-up areas, medical room and massage room.

**High Performance Centre:** An 8000m<sup>2</sup> Cowboys' Community, Training and High Performance Centre will also form part of the NQS complex.

The centre will provide high performance training facilities for the Cowboys, with access available for other sports clubs including Townsville Fire (the city's Women's National Basketball League team) and touring sporting teams.

James Cook University has agreed terms as the first tenant of the co-located space and will host a sports science and research facility. Medical sports consulting and rehabilitation services will also be provided at the centre, while the Townsville City Council will have rights to the community field for general community purposes.

Funding for the centre is currently before the Queensland Government for final consideration, with the aim being for completion prior to the start of the 2021 NRL season.



*In place of traditional trusses, folded plates achieve the new stadium roof's 'pandanus' geometry. These plates provide strength to resist cyclonic wind loads and flexibility to allow the roof to expand and contract with tropical temperature fluctuations*





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## SPORTS FIELDS

*The newly turfed Amata Oval in far northwestern South Australia certainly stands out against the barren backdrop of the surrounding landscape*

# Outback Oasis

*Sport is well known for its ability to bring people and communities together, but in a remote Aboriginal community in South Australia it's a newly turfed oval that is helping achieve that.*







PHOTOS: SA WATER

*Amata Oval, which will play host to local community events as well as the SANFL's APY League, is irrigated using recycled water from SA Water's nearby treatment plant*

**M**ore than 1300 kilometres northwest of Adelaide, in the middle of a vast red and brown landscape, an unexpectedly green oasis was officially opened in early November for the local football league and wider community to enjoy.

The newly grassed Amata Oval is located in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands, near the South Australia/Northern Territory border, and is irrigated using recycled water from SA Water's nearby wastewater treatment plant. SA Water manages water supplies and/or wastewater disposal systems in 13 Aboriginal communities and government facilities in the APY Lands, including 53 bores (nine of which are solar-powered), four state-of-the-art desalination plants and one wastewater treatment plant.

The concept of greening Amata Oval was spawned by SA Water's Remote Communities team in 2016 following an analysis of potential reuse options for excess wastewater collected from the local network. A contract for civil construction work was awarded in November 2017, with grassing starting in October 2018.

SA Water's Remote Communities manager Simon Wurst says the project's objective was to provide Amata with a functional open space that could be maintained in an environmentally sustainable way.

"Each day, around 70,000 litres of wastewater is treated at the plant and pumped to an underground irrigation system at the oval," says Wurst. "It's a massive feat to have not only recycled water infrastructure in such an isolated location, but also green grass. We met this challenge through innovative solutions like special durable materials and remote monitoring and operation technology.

"Building relationships between the local community and SA Water has been essential to ensuring our infrastructure delivers the fundamental public health outcomes. Through initiatives such as our greening project, we're supporting greater liveability for the people we serve in Amata."

## GREEN-UP

South Australian irrigation and turf management company Greene Eden was charged with the undertaking the works at Amata. Prior to installation of the Rain Bird irrigation system, the oval's soil and sand were tested, with the results indicating the existing terrain was nutrient-poor and required a soil builder that was rich in carbon and other nutrients.

Once the site was stripped and levelled, around 12 tonnes of soil conditioner and improver was applied across the entire site. This also served as a concentrated mineral fertiliser with the benefits of humic acid and carbon, increasing available phosphorous and other nutrients in the soil. The fertiliser enables a greater resilience to environmental impacts and helps protect it from diseases and pests, while improving soil water use efficiency.

The oval's soil profile was wetted using overhead sprinklers and a sub-surface drip system. Once the soil moisture level was satisfactory and climatic conditions improved, the area was seeded. A range of grass varieties were used including kikuyu, as well as tall fescue, ryegrass and fine fescue, which will act as 'cover' seed for the kikuyu until it ultimately establishes itself as the dominant grass.

Initially, the Amata Oval irrigation system was comprised of an overhead sprinkler system, which utilised bore water only, and

a sub-surface drip system which could use either bore or recycled water. The existing overhead sprinkler system was upgraded to ensure an even distribution of water across the oval, enabling seed germination and root growth. It was turned off once root growth had developed and to reduce demand on the aquifer, after which the sub-surface drip system became the source of irrigation.

The sub-surface drip system comprises 42,500 metres of drip tube installed at a consistent depth of between 125-175mm. Tube rows are spaced at 400mm across the site, with drip tube emitters spaced at 500mm, therefore creating a grid pattern. The precipitation rate across the site is 8mm per hour.

Sub-surface drip systems provide moisture only to the rootzone of the plant, therefore ensuring deep root growth. This approach was integral to the success of the project, given the challenging climate and environmental conditions. While the surface of the soil dries out, the roots can be maintained within a moist, cool environment, promoting continued growth.

The new irrigation system is monitored via cloud-based technology from Greene Eden's office based in Adelaide to ensure it operates efficiently and provides a constant source of water to promote continued grass growth. As for the ongoing maintenance of the oval, SA Water is working together to enable local service providers to take ownership of the oval's upkeep, supported by the area's local municipal services and employment provider.

## LOGISTICS

Due to its remote location, perhaps the biggest challenge of the entire project was getting all the required infrastructure to Amata.





*Works on the oval started last October, with an extensive network of sub-surface drip irrigation piping installed to overcome the unique climatic challenges*

Specialised freight companies were used to make deliveries to the site, or weekly freight deliveries to the township of Marla which is around 300km east of Amata and 2.5 hours north of Coober Pedy on the A87 highway.

Freight trucks had to be frequently checked on the dirt roads between the highway and Amata to assess load shifting and safety. While this often delayed deliveries, it was important for the safety and wellbeing of the drivers. The quantity of product required for the system was extensive – including 122 rolls of drip-tube – so freighting had to be carefully managed.

Two days of travel was required to reach Amata and therefore each trip had to be strategically planned to ensure all the equipment and resources were available for the allocated work during each trip.

## COMMUNITY ASSET

The newly grassed oval will be the new jewel in the crown of the South Australian National Football League's (SANFL) APY League which was revamped and relaunched prior to the 2019 season.

Regarded as the country's most remote Australian Rules football competition, spanning 200,000 square kilometres in remote SA and NT, the league replaced the former Far North West Sports League which was suspended indefinitely midway through the 2018 season following on and off-field violence at matches. The APY League recommenced on Saturday 4 May with 10 football and softball teams from

across the APY Lands, as well as the Uluru-based Mutitjulu Cats.

To celebrate the oval's opening in early November, students from schools in the region were joined by players from two local football teams – including 2019 APY League premiers the Central Swans – as well as Port Adelaide Football Club (PAFC) who took the opportunity to host a sports carnival as part of its WillPOWER programme.

"WillPOWER is about encouraging students in the APY and Maralinga Lands to stay engaged with and complete their schooling," says Port Adelaide's Aboriginal programmes director Paul Vandenberg. "We

like to reward their school attendance with sporting carnivals, and while they're usually at Alice Springs or Ernabella, we jumped at the opportunity to host this event at the newly grassed Amata Oval.

"The importance of having a facility like this can't be underestimated for the local community and SA Water should be commended for helping make it happen."

## ACKNOWLEDGEMENTS

*Australian Turfgrass Management wishes to thank Clare Hesketh and Julian Mittiga from SA Water for their assistance in putting this article together. 🙏*



*Once the oval was stripped and levelled, around 12 tonnes of soil conditioner and improver was applied across the entire site*





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*Ladbrokes Park Elwick, one of Tasmania's oldest and most prestigious metropolitan racing venues, has undergone a \$12.675 million track redevelopment ahead of hosting its biggest annual meet, the Hobart Cup, in February.*

**L**adbrokes Park Elwick has a long and proud history in the sport of racing in Tasmania. Its location on the shores of the Derwent River in the northern Hobart suburb of Glenorchy, has attracted racegoers since the late 19th Century and is home to the prized Group 3 Hobart Cup which is raced every February over 2400m.

In 2004, the Elwick precinct underwent a \$20 million redevelopment which saw the construction of dedicated harness racing and greyhound tracks, as well as a facelift for the heritage-listed grandstand. Elwick's Course Proper was also reconstructed around the same time with a conventional profile and primarily ryegrass/Kentucky bluegrass surface, but in the years since had never quite performed to expectation.

To help ensure the long-term future of racing in state's south, in 2017 Tasracing, the state's governing body for racing, announced that the Course Proper would undergo a \$12.675 million redevelopment. After extensive planning and consultation between Tasracing, stakeholders and the local racing industry to ensure the project would benefit all parties, construction started on the new 28-metre wide Course Proper immediately after the running of the 2019 Hobart Cup. StrathAyr were awarded the tender to construct the new track, with Dalton Consulting Engineers (DCE) and Macquarie Franklin appointed to manage the project on behalf of Tasracing.

## KEY CONSIDERATIONS

Through early engagement with Tasracing, StrathAyr undertook significant preliminary planning prior to the project starting. StrathAyr's Joe McCullagh, together with DCE's Ross Mason, carried out a full design assessment of the build which would see the new Course Proper replace the old training track and existing smaller Course Proper. Among their key considerations were coming up with a suitable design that would optimise drainage and integrate the track's new reticulated

# Elevating Elwick



WORDS: FRANK CASIMATY (STRATHAYR) AND SIMON BRESNEHAN (TASRACING) PHOTOS: STRATHAYR



*The new StrathAyr-built Course Proper at Ladbrokes  
Park Elwick will get its first run when it hosts  
Tasmanian Derby Day on 31 January 2020*







A lower sand layer is laser levelled (left) prior to StrathAyr's reinforced matrix layer being placed



stormwater system to harvest and store runoff for future irrigation needs.

Months before track works commenced, in September 2018 some 65,000m<sup>2</sup> of a Kentucky bluegrass/ryegrass mix was sown at StrathAyr's primary turf production farm 20 kilometres away in Richmond. As part of this, the farm's turf washing equipment was extensively upgraded to ensure that volume of turf could be washed quickly and efficiently.

Another primary consideration in the early stages was sourcing a suitable sand. One of the most important aspects in building the new StrathAyr track was securing delivery of 35,000 tonnes of quality sand to meet the specific design requirements. Sourcing a suitable grade sand can be a challenge in Tasmania and for this project the best sand just happened to be at the other end of the state at Barnbougle on the north east coast. The sand was sourced and supplied by The Baker Group and due to the long cartage distance (a 10-hour round trip), stockpiling on site started in January 2019 to meet project delivery schedules.

The extended width (an additional 4m) of the new Course Proper created some operational challenges, particularly in regards to irrigation which was ultimately a Toro system designed and installed by Brisbane-based Project Irrigation. Due to its location by the Derwent River, the Elwick site is particularly windy and the track receives the full blast of the prevailing northwesterly winds that funnel down the river.

To overcome that challenge, closer sprinkler head spacings on the northwestern side of the track and plenty of quick couplers were installed to assist the irrigation system meeting demand. The system also includes the latest communication technology, allowing for remote operation by mobile phone and a weather station that communicates with the irrigation system which can suspend irrigation in adverse weather conditions if required.

The new system has performed perfectly and was especially tested during the recent November period when the site experienced 12 days of strong to gale force winds. Strong winds were also a major issue during construction and keeping stockpiled sand on site in what was a particularly dry and windy year.

## ON TRACK

Bulk excavation works, reshaping of the track profile and dam works were performed by Shaw Contracting. The works included levelling the back straight by up to 1.4m to remove the existing large dip which historically had been an area of high risk for horses and jockeys. Reshaping works consisted of getting the desired two per cent crossfall on the straights and four per cent on the bends.

Following excavation works, StrathAyr installed the mainline collector drains around the track at the same time as carrying out the final base trim with a total station controlled laser bucket. Lateral drains were installed at 45 degrees offset across the track at 10-metre intervals, before the gravel drainage layer was installed and levelled.

As the drains were completed, a lower sand layer was installed followed by the spreading of StrathAyr's unique reinforced matrix layer consisting of sand, ReFlex mesh elements and Canadian peat moss. The ReFlex mesh reinforcement is the critical element in allowing such a free-draining and relatively unstable sand to be suitable for horse racing. Not only does it contribute to stability and add huge load bearing capacity, it also reduces profile compaction. A final 20mm-deep sand layer was then spread and the washed turf carefully laid.

The extensive array of works were carried out simultaneously with the last rolls of turf

harvested and laid in mid-November. Following turfing, a specific watering, fertilising and cutting regime was implemented to ensure optimal grow-in.

## FINISHING POST

Post-establishment, maintenance of the new track will become the responsibility of Tasracing, with StrathAyr having an ongoing involvement in the maintenance programme.

All StrathAyr tracks have a modified USGA-type perched water table design consisting of a gravel drainage layer, a sand layer and a sand/ReFlex mesh element/peat moss reinforced layer. Apart from the differing geographical locations of these race tracks, the only fundamental difference between all of them is the capacity of their respective drainage systems, which is dependent on localised rainfall and turf type.

Elwick is globally the southernmost StrathAyr track, with cool-season grasses being the only realistic option for the surface. Surprisingly, however, climate data shows that Elwick has the lowest rainfall characteristics in both quantity and intensity of any previously constructed StrathAyr track.

This poses the question of why does Hobart need an all-weather track given such a unique climate? The new StrathAyr track profile will not only contribute to enhancing drainage during weather events, but will also;

- Reduce damage to the track when there is a rare wet weather event;
- Provide a profile that is the best for grass recovery and growth in any conditions;
- Ensure consistency for the entire track surface in all weather conditions.

The new track has until late January to fully 'bed-down' in time for initial trial track gallops. It's first race meet will be Tasmanian Derby Day on Friday 31 January before the all-important Hobart Cup on Sunday 9 February. 🏇



Some 65,000m<sup>2</sup> of Kentucky bluegrass/ryegrass washed turf was used on the new 28-metre-wide Course Proper





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For example, irrigation systems supplement the lack of natural rainfall and fertiliser applications help maintain optimal levels of soil nutrients. Putting greens and tees can be constructed with sand-based rootzones to enhance drainage and compaction resistance. Various cultivation techniques can be utilised to ensure oxygen reaches the roots. Even temperature can be indirectly managed by using turf covers to warm the soil or fans to cool overheated turf. Some courses have even invested in subsurface heating and cooling systems to modify the soil temperature of their greens.

Unfortunately, golf course managers have little opportunity to increase natural sunlight. There are only so many hours of daylight, which varies considerably throughout different times of the year, and you can't wish clouds away. Installing a bank of high-intensity lamps over every shaded putting green simply isn't feasible for courses.

## Seeing the light

*Adequate sunlight is an absolute necessity for maintaining high-quality turf. However, as USGA agronomists Bob Vavrek and Patrick O'Brien write, shade remains one of the most overlooked factors that limits the quality of a golf course's most important playing surfaces.*

Ultimately, weather and the time of the year determine how much sunlight can possibly reach the turf. To complicate matters, nearly all golf courses have significant amounts of turf affected by tree shade that limits the amount of light energy that reaches the grass.

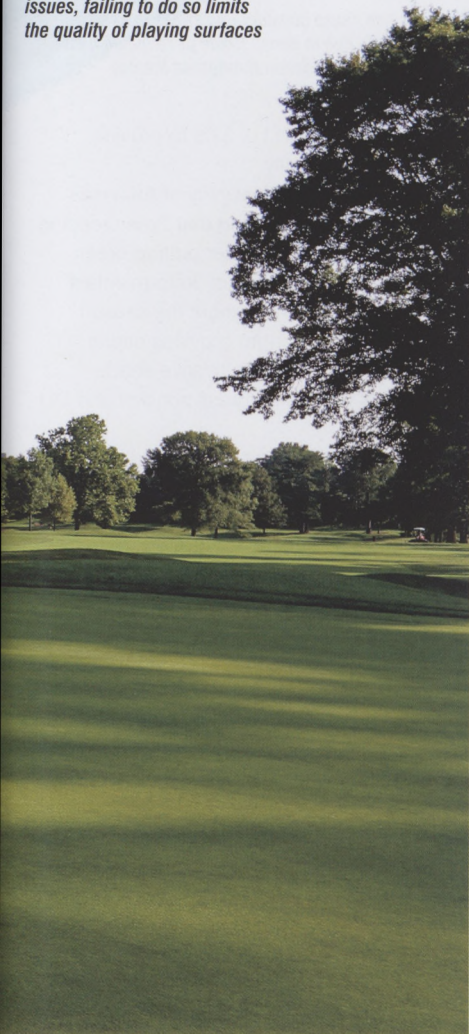
### KEY TO LIFE

Cool- and warm-season grasses require the energy provided by sunlight to convert water and carbon dioxide into carbohydrates and oxygen (the process of photosynthesis). Warm-season grasses have the ability to manufacture carbohydrates at higher temperatures than cool-season grasses, but the basic process and requirements for light, water and carbon dioxide are similar.

Carbohydrates (sugars) are the food plants use to grow. The minerals in fertiliser provide essential building blocks required during photosynthesis to produce carbohydrates. Despite creative marketing calling many fertilisers 'plant foods', these products do not directly supply the energy plants need to grow. Granted, a lack of essential minerals in the soil can limit turf growth. However, liquid sunshine doesn't exist and fertiliser is never a substitute for adequate light if you desire healthy turf.



While many golf facilities are reluctant to address shade issues, failing to do so limits the quality of playing surfaces



Diseases, such as dollar spot, that require long periods of leaf wetness, are more prevalent in shaded sites since dew remains on the turf longer

Obviously, the inability to rapidly recover from wear would affect the popular, heavily played golf facilities the most, but all courses are affected by wear issues and the loss of turf cover from time to time. Heavy play, disease activity, excessive heat, mechanical wear and the stress associated with too much or too little water, are factors that necessitate rapid turf recovery – but rapid turf recovery is impossible in the shade.

As mentioned above, putting greens are particularly sensitive to shade and they are, by far, the most important playing surface on a golf course and the most scrutinised by members and management. The following are examples of putting green issues directly or indirectly caused by tree shade:

- Winter injury caused by low temperatures affects the weak turf on shaded putting greens the most. Evergreen trees cause the most winter injury problems because they produce dense shade all year.
- Shaded greens will experience the longest frost delays.
- Diseases, such as dollar spot, that require long periods of leaf wetness, are more prevalent in shaded sites since dew remains on the turf longer.
- Shaded turf that is weak entering winter has little chance to make and store the carbohydrates needed for rapid spring

green-up. Any winter injury will also be extra slow to recover due to carbohydrate depletion. Spring growth and winter injury recovery is also limited by low soil temperatures that persist longer in shaded sites.

- Most greens that have severe tree shade issues will also have problems associated with poor air circulation and tree roots competing with turf for water and nutrients. The lack of air circulation can be especially detrimental to turf health during extended periods of hot, humid weather.
- A thin, shaded putting surface will have a greater chance of developing moss encroachment problems than dense turf in full sun.
- Recovery from cultural practices that thin out the stand of turf – such as aeration and deep vertical mowing – occurs more slowly on shaded turf than turf in full sun.

## MINIMUM LIGHT REQUIREMENTS

Turf quality declines under shaded conditions. Sometimes buildings cause shade – for example, when the practice putting green is conveniently located immediately adjacent to the clubhouse or golf shop. Sometimes topography affects sunlight availability, such as when a putting green is located in a deep hollow.

## NEVER MADE IN THE SHADE

The detrimental effects of shade on turfgrass growth and development are well documented and obvious to any turf manager. Go no farther than your backyard to find weak, spindly grass in the shade of a resident tree. Place the children's swing set beneath the trees and you'll be lucky to find more than a few patches of scraggly turf because heavily shaded grass cannot recover from wear.

Except for roughs, golf course turf is mowed much shorter than a home lawn, which magnifies problems associated with limited growth potential in shade. Turf growth of short grass is limited in the shade because shorter turf has minimal leaf area to intercept sunlight in the first place, which is why divots are so slow to recover on a heavily shaded tee. It should come as no surprise that putting greens suffer the most from shade since they possess little more than a thin veneer of leaf tissue mowed at around 3mm.

Turf health and playability go hand in hand because superintendents manipulate the turf to provide a desired playing surface. Golfers then play on that surface, causing wear that everyone hopes will recover quickly; except sometimes turf doesn't recover quickly.



Figure 1. Relative shade tolerance of common turfgrasses





However, trees are by far the most common cause of shade problems on a golf course, particularly when we are talking about the closely mowed turf on tees and putting greens. Increasing the light reaching key playing surfaces through selective tree removal can pay huge dividends in turf health and playing quality throughout the season.

healthy growth, but not all six-hour intervals of sunlight are equal.

The amount of useful light energy, referred to as photosynthetically active radiation (PAR), that reaches the turf during six hours of full sunlight varies throughout the year based on the time of day and angle of the sun. The amount of PAR that shines on a specific area

*“Trees and turfgrass are like brothers. Give them ample space to grow and they get along just fine. Put them together in a small bedroom and the bigger one is going to dominate. Just like finding a proper distance between brothers is a key to harmony, trees and turf must have adequate space too.”*

-Chris Hartwiger, USGA

In the past, agronomists and superintendents had to make vague estimates about the amount of sunlight needed to grow healthy putting green turf. For example, we assumed creeping bentgrass greens needed at least six hours of direct sunlight per day for

of turf over a 24-hour period is called the ‘daily light integral’, or DLI, and is expressed as moles of PAR per square meter per day.

A study at Clemson University (Bunnell, 2005) determined that TifEagle couchgrass maintained under putting green conditions



Putting greens located in hollows receive shade from the topography and from the surrounding trees that are elevated above the putting surface

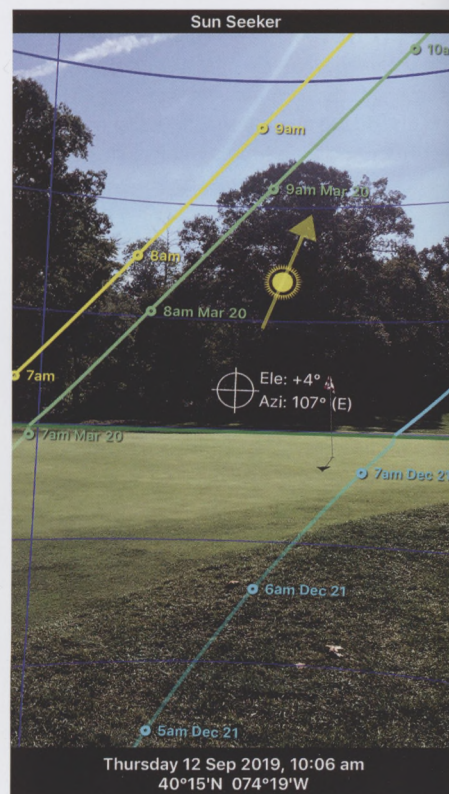
*Buildings can cause considerable stress to nearby putting greens due to dense shade or reflected heat depending on sun location throughout the day*

needs a minimum DLI of 32.6 to provide acceptable turf quality.

Research at the University of Arkansas (Russell, 2019) determined that Tyee creeping bentgrass maintained under putting green conditions required a DLI of 30 to maintain acceptable quality throughout the season. Figure 1 (previous page) provides useful information regarding the relative shade tolerance of various turfgrass species and DLI information.

Armed with these baselines and the relatively inexpensive equipment needed to measure DLI on a golf course, turf managers can clearly identify and quantify the potential for putting green shade problems. The USGA article, ‘Made in the Shade or Mud in the Shade?’ published in the USGA Green Section Record 11 May 2012, Volume 50 (10), explains DLI in more detail, provides a practical method to measure shade and explains how data can be utilised to make sound, fact-based tree management decisions.

Author Chris Hartwiger begins the article with a wonderful description of the relationship between trees and turfgrass: “Trees and turfgrass are like brothers. Give them ample space to grow and they get along just fine. Put them together in a small bedroom and the bigger one is going to dominate. Just like finding a proper distance between brothers



Inexpensive smartphone apps, such as Sun Seeker, are useful for identifying shade problems





*Using a time-lapse camera can help to demonstrate to boards and management the shade issues that particular trees cause*

PHOTO: IDRIS EVANS

is a key to harmony, trees and turf must have adequate space, too. If they are too close together, the trees will outcompete turfgrass for growth-related resources like sunlight, water, and nutrients. Spaced appropriately, trees and turf will get along just fine, too."

## QUANTIFY, IDENTIFY, ACT

Decision-makers are often reluctant to remove the 'shady characters' from golf courses even when turf decline caused by insufficient sunlight is clearly evident. Documenting a shade problem with DLI data is a great start, but identifying which trees cause the most shade is also a key aspect of obtaining approval to harvest trees. Superintendents should consider the following options to support a case for removing trees that cause significant shade problems:

- Commercial companies that utilise computer modelling software that can determine what trees cause shade to a specific site today and how shade problems will increase over time. A shade study can predict the impact of removing individual trees. The ability to predict the benefits of removing specific trees can mitigate concern about tree removal because only the trees that cause the most shade will be harvested.
- Inexpensive apps for smartphones and tablets, such as Sun Seeker and SunSurveyor (both \$AUD14.99), use the device's camera to show the path of the sun from wherever the operator is standing (see photos opposite page). The software can illustrate which trees cause the most shade and help predict where trees will

cause future problems. Also, the app is just as useful on a cloudy day as a sunny day. The date and time of day can be easily changed to demonstrate how shade patterns change throughout the season.

- If a picture is worth a thousand words, then a short video may be worth a million. An entire day's shade pattern across a putting green can be condensed into a short 10- to 15-second video by using a time-lapse camera. Mount the camera in a tree that provides a vantage point above the putting green and set the unit to start recording at sunrise and end at sunset. Obviously, a day with no cloud cover is ideal. Watching the shade travel across the putting surface throughout the day can make it easy to detect a clear correlation between dense shade and weak, thin turf.

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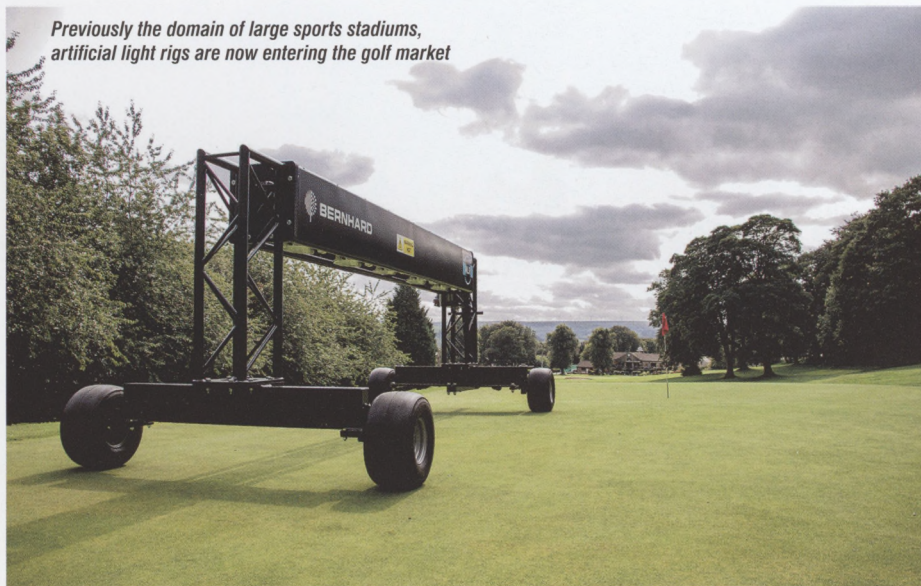
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- Never discount the value of documenting the significant problems trees cause in addition to shade. Removing leaves, seeds and other tree debris from putting surfaces and greenside bunkers throughout the season is costly, not to mention the annoyance the debris causes to golfers. Are tree roots increasing the risk of localised dry spots? Are trees next to putting greens impeding golfers' ability to recover from an errant shot? Are trees adjacent to greenside bunkers an unnecessary double-hazard that does little more than slow the pace of play? What about tree-related moss encroachment, dollar spot and inadequate air circulation? Leave no stone unturned when making your case for tree removal.

## HAPPY HARVEST

Approval for tree removal is granted, now what? Don't overestimate your ability to undertake in-house tree removal. Removing numerous large trees is a job for professionals. Obtain bids from reputable tree service companies that have a certified arborist on their staff and have experience working on golf courses. Helpful harvest hints include;

- Grind the stumps and repair the scars as soon as possible. To some golfers, stumps are the equivalent of tombstones and provide a nagging reminder of the loss.
- Avoid the temptation to plant replacement trees right after tree removal. Wait at least several years and then reassess playability, appearance and turf health. More often than not, the harvested trees will never be missed.
- Do you have a large number of high-value trees targeted for removal? Some golf courses place little value on the trees they harvest while others overestimate their worth. Most have no clue how much a given tree could be worth. Some golf

courses have been able to offset the cost of removing numerous trees by partnering with local timber mills who harvest and keep the timber (see ATM Volume 20.3 and Royal Wellington Golf Club's experience).

- Is someone associated with the golf course skilled in woodworking? If so, consider converting some of the harvested timber into tee markers and other wooden objects that can be used in the clubhouse or on the course or tables, bar tops and benches. This is a great way to enjoy a tree without making the turf suffer.

## SATISFACTION GUARANTEED

There is some truth in the old adage that turf doesn't do anything quickly, except die.



*Don't overestimate your ability to undertake in-house tree removal. Removing numerous large trees is a job for professionals*

However, an exception may be how fast weak, shaded turf responds to more sunlight. Turf's ability to increase density and recover rapidly from stress can be dramatic and occur within a few weeks after removing problem trees when growing conditions are favourable. In an era when everyone craves instant gratification, you'll be surprised how quickly an aggressive programme of removing 'shady characters' can inject new life into tired, weak putting greens.

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## ACKNOWLEDGEMENTS

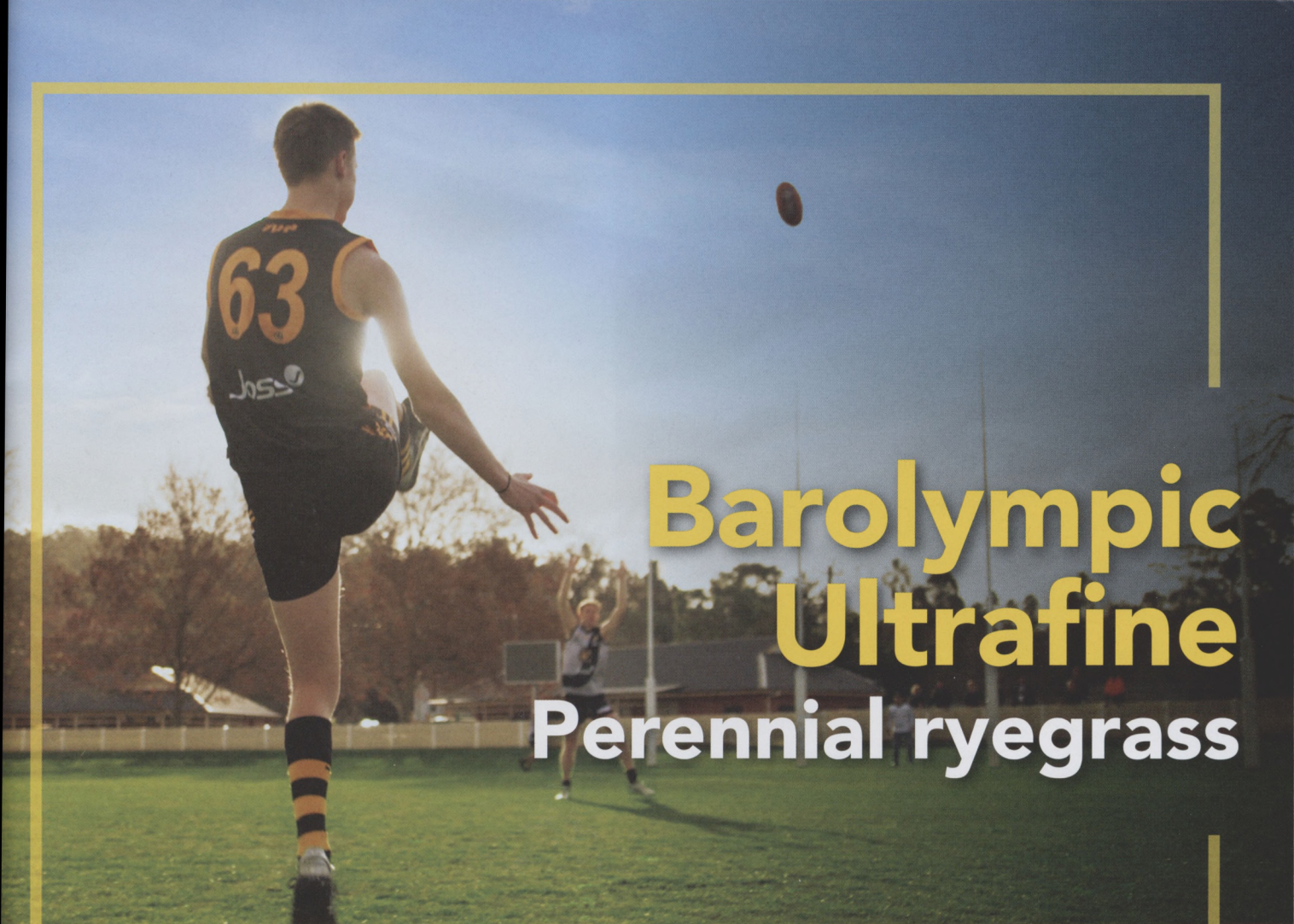
ATM wishes to thank the authors and the USGA for allowing this article to be printed. The original article, titled 'Light the way to healthy putting greens', appeared in the *Green Section Record*, Vol 57 (19), 4 October 2019. Bob Vavrek is director of the USGA Green Section Central Region and Patrick O'Brien is an agronomist in the USGA Green Section Southeast Region. 🙏

## AVONDALE GOLF CLUB SHADE RESEARCH

If there is one Australian course superintendent who knows the impact that shade can have on turf, it is Avondale Golf Club's David Warwick. The Sydney-based layout is heavily treed, with 50 per cent of the course significantly impacted by shade. Seven of the back nine greens and two of the front nine greens have trees on their east, north and west aspects, with only four greens having adequate light.

To better understand the extent of the shade and the impact of the available light on turf quality at Avondale, a detailed analysis of each green and several tees was undertaken during 2016 and 2017 with the assistance of agronomist John Neylan. The research involved measuring light levels on each green, determining the path of the sun in relation to the treescape, taking photographs throughout the day to document the shade levels and assessing turf quality parameters. Neylan presented the detailed findings of this research in ATM Volume 20.2 (March-April 2018, pages 42-48).





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<sup>^</sup>In Victoria and Queensland, trials conducted by John Neylan and Matt Roche.





PETER McMAUGH AM

*Regular surface renovation  
remains one of the most  
critical cultural practices  
a superintendent will  
undertake to their greens.  
Compromising such  
practices, whether because  
of playing schedules or lack  
of resources, is sheer folly*



# Rethinking renos

*Renovation practices and the options available to golf course superintendents have come a long way over the years. As ATM expert columnist Peter McMaugh writes, researching your options and choosing wisely will go a long way to ensuring your greens surfaces remain in optimum condition.*

Over the past few months I have frequently been asked by golf course superintendents what I think about renovation practices related to the new suite of super dwarf bentgrasses which are becoming more and more popular in the market place, especially on newly built greens. I am also asked frequently what I think about programmes of frequent mechanical treatment with various tine types, coupled with queries about regular sand dusting.

I think it pays enormous dividends to look back into the history of renovation and try to see how the practices we use today fit with the result we are trying to achieve for the surface of our greens with our current equipment.

Whenever we build a green, we are always constrained by the materials we have available and how the grasses we choose react to the environment created for it to grow in. Historically greenkeepers in the 'home of golf' forked their greens at least once a year with a solid tine fork. Usually, but not always, this was done in the spring to encourage better overall root growth. Even the introduction of the hollow tine fork did not change this much.

After this exercise the greens would be topdressed with a special compost which the greenkeeper would have been nurturing for probably 12 months prior. This would usually contain some farmyard manure and seaweed kelp, along with his choice of sandy material to true up the surface. This was an arduous practice so it wasn't done frequently.

Also in the renovation rotation, a staged number of greens each year had the turf

lifted and a layer of root thatch removed and the greens surface re-laid. This traditional practice is still carried out very successfully at Royal Melbourne Golf Club and with modern equipment a lot more quickly than when it was totally a manual exercise.

Inspired by Claude Crockford's methods during his 40-year tenure as course manager between 1935 and 1975, the practice forms part of Royal Melbourne's course management philosophy. Every 10-15 years greens are lifted and organic matter removed, with eight greens undergoing the practice over the past two years.

So what does all this tell us? When we build or rebuild a green, we expect it to last probably 30 years before we need to do any major work on it. Is this expectation reasonable? That all depends on the composition of the growing medium when it was built and its subsequent treatment under what will in most cases be several different superintendents.

The work that Gary Beehag and I presented at the Asia Pacific Turfgrass Conference in Wellington, New Zealand in 2018 (ATM Volume 20.6, pg 50-53) showed fairly clearly that greens built out of sands lying on the coarser edge of the USGA envelope have a longer life with less problems than those built with sands on the finer edge. Why? Because there is greater air porosity in these sands, which are slower over time to be filled with grassroots.

It is the decline in oxygen/water ratios over time that is the main cause of decline in greens health and performance as they age. Today

we have a vast array of tools aimed at keeping excessive thatch out of greens and also aimed at restoring greens somewhat towards their original oxygen/water balance.

The work that Gary and I have done indicates quite clearly that in many cases the oxygen/water balance changes very quickly in the first few years when greens are built to the finer edge of the USGA specs. When we question why this occurs, it pays again to look at the history of the demands for play.

Once upon a time in Australia, golf was a winter sport. There were windows in spring and autumn playing programmes where there was time for renovation works to be carried out. And, what's more, the members accepted the need for this to happen. How different it is today where members, visitors and corporate players expect perfect surfaces 365 days of the year and they are very reluctant to accept the need for this disruption to their schedules.

Often the playing programmes of clubs leave only very small windows available for intensive work on greens. This often means that techniques of renovation that worked well 10 years ago may have to be modified to fit into today's time lines. Can that happen and an adequate renovation result be achieved?

## THE FACTS...

There are a few indisputable facts which have to be well understood and acknowledged if you want to talk sensibly and intelligently about renovation technologies. These include;

- No core hole, no matter how wide or how deep, aerates anything other than that hole.





*The traditional practice of lifting and removing 50-100mm of thatch and organic matter is still successfully undertaken at Royal Melbourne Golf Club*

- Modern coring machines, with their high-speed actions, have energy impact which creates the hole but also leads, over time, to a compaction pan at the base of the hole.
- No matter what spacing pattern you use, the area between the holes is not decompacted.
- On a 50mm x 50mm spacing pattern approximately five per cent of the greens volume is removed using a 100mm length tine x 9.5mm diameter. If you use a 16mm diameter tine you remove about seven per cent.
- For many superintendents, the holy grail is a corer which leaves a perfectly circular hole with no surface lift or disruption. They do exist, thanks to the unrelenting search by the late David Livingstone who tragically died before he saw his dream reach commercial acceptance.
- With the advent of mini-tine coring, a much greater percentage of thatch can be removed with multiple passes, leaving the surface looking as if it has never been touched. I consider the Maredo heads for mowers to be one of the most exciting developments I have seen in a very long time.
- Unless you use some kind of shattering over the top of the coring technique, the growing medium between the holes will not be decompacted.

*Tine types and sizes have changed significantly with many more options now available*

- If you use a shattering technique on its own, it will not be as efficient as the combination of both.
- Any true complete decompaction will have an effect on surface smoothness.
- The more compacted the green is prior to treatment, the greater the disruption will be to the surface if the renovation is done in a total manner.
- Rolling after treatment can remove the worst of the disruption without destroying the effectiveness of the treatment.
- Machines such as the Verti-Drain have a 'flick' action which causes the top of the tine to lean on the top of the hole, creating compaction, on that edge.

In my experience, not many golf course superintendents are willing to, or often need to, do a total severe renovation. These are more often than not in the domain of the bowling greenkeeper, a sports ground manager or a racecourse curator. The equation is very simple – the more pounding impact on a surface the greater the compaction and the greater the need for full renovation.

The higher very fine particles are as a proportion of the total volume, the greater the potential for compaction will be in a growing medium. From the many years I spent analysing soils in the laboratory, this starts to impinge at 12.5 per cent of total volume and by 15 per cent it becomes quite critical. This





*With the advent of mini-tine coring, a much greater percentage of thatch can be removed*

has to be balanced by the composition of the rest of the sand. If the mix is a broad spread of values, then the compaction will be easier to achieve. If the spread is narrow, compaction will be harder to achieve.

There is another not very well understood nor very well researched factor and that is the angularity of the particles in the coarser sand components of the growing medium. The sharper the edges the more difficult it is to get the sand particles to move evenly and inter-pack. In other words, they are non-compacting but very stable sands.

This is where understanding your sand source is so vital. Very often (even to the point of saying 'always') dune sands fail this critical test of shape. Their origin and age and frequency of movement make them almost always rounded. They may pass every other test in the USGA catalogue, but put them into a green or tee and you will have a ball bearing disaster of surface movement under load. This is so bad that even the strongest plant root systems cannot keep them stable, especially as they dry out.

## THE RIGHT EQUIPMENT

When we look at renovation equipment, hollow tine coring machines dominate the market place. But there are other options including the Hydroject which is still very much loved by some very successful practitioners. Then there is the question of should we use hollow tines or solid tines?

There has been a very strong movement in the past 10 years towards using narrow-diameter solid tines (which are longer than hollow tines) very frequently on greens. But what type of solid tine works best? There is no doubt in my mind that 8mm needle tines set up properly on a coring machine that can put them in and take them out with vertical precision, still do the best job of all the different solid tines. This opinion is based on hundreds of plugs I have looked at for root depth and the development of clean white healthy roots.

The super dwarf bentgrasses, such as Pure Distinction, have the ability to develop a beautiful putting surface very quickly. They also help keep *Poa* out because it can't find a spot to get in. But they thatch up very quickly also. This extreme density also occurs in the root and thatch development of these newer grasses, causing the loss of air porosity much more quickly than with older varieties like Penncross.

While punching more holes, be they big or small, gives the plant more relief for air, and the plants obviously take advantage of

*It is the decline in oxygen/water ratios in the profile over time that is the main cause of decline in greens health and performance as they age*



that by sending their roots down the paths of least resistance, it really doesn't overcome the overall compaction problem caused by golfers and mowing equipment. While it would be great without golfers, the reality is that the compacting forces have to go somewhere and the only way that compaction can be relieved properly is by upward lift of the surface.

This compaction relief must not be confused with the removal of thatch. That is a totally different question. With the practice of sand dusting having been clearly shown to be successful in keeping fast true putting surfaces, it does nothing ultimately for the buried thatch other than making the need for complete surface lifting come around quicker. And that is ignoring the extra wear and tear on mower cylinders.

When I look at the array of implements and reels designed to take thatch and grain out of greens, not to mention the verti-cut machines, there is a veritable army of options. Ultimately though there is no gain without pain. If the problems are pushed to one side either by stifling play programmes, lack of labour, lack of suitable machinery or any other reason for

decisions made, when the crunch time comes it can mean many months of remedial work and less than perfect surfaces to claw back the quality needed.

Management decisions are often hard to plan when there is a lot of pressure on time slots, but one of the jobs of a competent superintendent is to make your voice heard. This is sometimes hard to do, and to protect yourself it may be necessary to put your concern in writing so that when push comes to shove you can say 'I told you so' and 'here is the evidence'.

Negotiating a clear pathway with management is one of the skills you need as a competent and professional superintendent and sulking in your corner when you don't win is not a solution. I'd like a dollar for every time I have heard the phrase 'them bastards'. But remember, ultimately 'them bastards' pay your wages. Part of your skill has to be massaging them to your way of thinking. But that is another story in itself.

I hope this helps you think about your options in a constructive way; there are now many more than there used to be. 🌱







*Making the most of the available water for irrigating sports fields is a combination of many things – good system design, flexible control, regular maintenance and auditing of the irrigation system, as well as a good understanding of plant water use requirements*

# Improving your irrigation

*In his latest column, John Neylan focuses on irrigation management for sportsfields and asks sports turf managers whether they are making the best use of their most precious resource.*

**P**roducing quality turf areas depends on the availability of a good quality and constant water supply. Water and how it is applied is a major factor in producing a high-quality turf. Over the past 12 months there have been two particular aspects related to the irrigation of sportsfields that has come to my attention which has had me questioning some current techniques and strategies being employed.

## IRRIGATION SCHEDULING AND DEPTH OF WATER PENETRATION

During the STA Victoria-funded sportsfield research project (see ATM Volumes 21.2 and 21.3 for results), it was obvious over the summer months that some fields were not receiving sufficient water because the watering programme was locked into a time programming basis rather than plant water requirements.

Because the past two irrigation seasons have extended into late April, the fields, albeit they were couch, were under severe moisture stress going into the autumn. A search through Nearmap images (see example opposite page) confirms that this is a widespread problem. From my research there are two components as to why the fields were under stress;

- The poor water distribution of many irrigation systems; and
- The inadequate amount of water being applied.

In measuring soil moisture on a regular basis, the soil moisture content started in the spring being at an adequate level and then steadily declined throughout the dry months. Shallow irrigations were most noticeable and none of the fields at any stage were being irrigated to the full depth of the rootzone. In fact, looking at the run times on many irrigation systems, they were locked into such short run times and struggled to apply 5mm of irrigation per irrigation cycle.

Consequently, most of the available moisture was in the top 25mm of the profile where there were increased losses due to evaporation. More importantly, this did not allow the deep root system of the warm-season grasses to be used to their full potential.

## SOIL TYPE AND WATER CONSERVATION

With impending water restrictions in some states and the increasing cost of water, there has been an ongoing discussion regarding how water usage can be reduced

on sportsfields. One particular aspect that has intrigued me is the promotion of using fine-textured soils to reduce water use. The premise being that fine-textured soils (i.e. not sands) have a greater water holding capacity and therefore reduce the water demand. This theory is flawed and will be discussed later in this article.

Water can be a high cost input in maintaining turf areas and in managing turf it is important to understand the role of water in grass growth. Unless the turf manager understands where water fits into the turf management picture, then understanding water use efficiency is not possible. In fact, a better understanding of water use efficiency can improve turf health, wear tolerance, wear recovery, while giving a better-quality surface as well as conserving water.

Managing irrigated turf requires knowledge of the grass species being grown and its water requirements, soil types and the effects of cultural techniques used to maintain them. With most sportsfields being warm-season grasses and, in particular, couch, it is quite clear that many turf managers are not exploiting the characteristics of these grasses in terms of how irrigation is programmed. Grasses such as couch have deep root



*Poor irrigation system distribution uniformity has a deleterious effect on turf quality*

systems that can exploit moisture at depth, but couch fields are rarely irrigated to the depth of the rootzone as a method of water conservation.

## TURFGRASSES AND PLANT WATER USE

The prime purpose of irrigating turf is to replace the water used by the plant. There are two important criteria to understand when discussing plant water use – water use rate and water use efficiency.

Water use rate (WUR) is the total water requirement for turfgrass growth plus the quantity transpired from the plant and evaporated from the soil surface (Youngner, 1985). The WUR is typically measured as evapotranspiration and changes with climatic conditions, plant species (and cultivars), soil moisture availability and cultural practices.

Water is a critical component of plant growth and the production of new tissue is necessary for the plant to recover from wear. Water is a key component of photosynthesis and the rate of photosynthesis is dependent on water availability as well as nutrient supply and the ability of the *rootzone* to extract these from the soil. Only a small proportion (about two per cent) of water absorbed by a turfgrass plant is used in photosynthesis and growth processes. The majority (the remaining 98 per cent) of the water is *transpired from the turfgrass surface* into the surrounding atmosphere.

The total water loss from the turf sward is described as evapotranspiration (ET). While there are generic figures for ET quoted in the literature, cultural or environmental factors that



alter the leaf area or shoot density of a given species may result in a significant shift in its relative ranking compared to the other species. Significant variability occurs among cultivars within the species.

As ET is a measure of the irrigation requirements of a turf sward, then if water use efficiency is to be improved then what are the most desirable turf sward characteristics? Beard (1989) described the most desirable sward as one which has a high shoot density, high leaf number, horizontal leaf orientation, narrow leaves and slow vertical leaf extension rate. These criteria fit well with warm-season grasses.

## TURFGRASS ROOT SYSTEMS

From my observations, the deep root system of warm-season grasses needs to be exploited more. Short and Colmer (1999) ranked turfgrasses in terms of root exploration with couch and kikuyu rated as excellent, tall fescue

and zoysia good and ryegrass being poor. Ryegrass had 86 per cent of roots in the top 10cm and no roots below 20cm, even after 1.5 years of growth.

In contrast, most warm-season grasses had 50-60 per cent of the root biomass in the top 10cm with the remaining proportion of roots at greater depth. In some cases, roots were found as deep as 100-150cm. Root exploration capacity is a strong feature of warm-season grasses which provides them with greater access to soil water reserves.

Lambrides (2014) and his co-workers have studied the drought tolerance and the moisture extraction capabilities of various *Cynodon* sp. selections and found that root growth could extend to two metres. In these studies it was found that the more drought tolerant types maintain turf quality because of a large underground rhizome system, lower water use during early stages of drought and better soil water extraction.



*The past two irrigation seasons in Victoria have extended into late April, with many sportsfields exhibiting moisture stress going into autumn. Pictured is a ground in southeast Melbourne (from left) in mid-November 2018, early January 2019 and early April 2019*

PHOTOS: NEARMAP





Given the importance of the root system it is important to note that the best root systems develop in sandy soils where there is a high level of aeration porosity (large pore spaces). In comparison, the finer textured soils, where there are fewer large pore spaces and a greater susceptibility to compaction, the root systems are less expansive.

In my opinion, most sports turf managers aren't exploiting the deep root growth and heat tolerance of warm-season grasses and in particular the couch varieties.

## SOIL WATER AND IRRIGATION

Different soils have different water holding capacity and infiltration rates which is related to pore size and pore distribution. The large pores are responsible for drainage, infiltration rate, aeration and root growth which are predominant in sandy soils. The small pores are responsible for water retention and are predominant in clay soils.

Sandy soils have good drainage and low water retention, whereas clay soils have good moisture retention and low drainage rates. While the level of water retention will determine how much water is available for use, infiltration rates will limit the maximum irrigation rate.

There are two main soil moisture definitions that are important in irrigation. The first is the field capacity, which is the amount of moisture retained in a soil after the excess has drained away after irrigation or rainfall. At field capacity it is the maximum amount of water that can be retained by a soil. Figure 1 (below) gives the indicative field capacity for different classifications of soil.

The second important definition is the permanent wilting point, which is the soil moisture content at which the turf will stop extracting water. That is, the water is so tightly bound that the plant can't extract it. More importantly, it is the available water content or the difference between field capacity and the permanent wilting point that affects the irrigation regime.

TABLE 1: AVAILABLE WATER CONTENT AND INFILTRATION RATE

Soil Type	Available water (mm/m)	Infiltration rate (mm/hr)*
Sand**	70	>50
Fine sand	90	20 - 30
Sandy loam	120	15 - 20
Sandy loam + OM	170	10 - 15
Loamy sand	170	8 - 12
Clay loam	165	5 - 10
Clay	140	1 - 5

Notes: Adapted from Connellan (2013). \* General guideline only \*\* Most sands used for sportfield construction will have an infiltration rate greater than 100mm/hr

The available water content varies between soil types and is the store of water that is available to plants and is what needs to be replaced by irrigation. The total amount of water that is available to plants is dependent on the depth of the roots and the available water holding capacity of the soil (Table 1).

The infiltration rate of soils is a very important characteristic when managing sports fields both in terms of drainage and irrigation. Effective drainage of sports grounds is critical in maintaining the performance of the field. The STA research project (2019) demonstrated that the consequences of poor drainage are;

- Reduced hours of use;
- Increased damage to the surface and turf; and
- Risk of injury due to unstable and inconsistent conditions.

The type of drainage that is appropriate depends on soil type, the topography and the required carrying capacity of the site. This then raises the question – what soil type is going to best suit? From my perspective sand is best given that drainage is all-important so that the winter sports traffic can be well managed. All of the statistics on field use confirm that the wettest time of the year coincides with the greatest hours of use. Therefore I believe that drainage cannot be compromised.

If we accept the premise that there is some tangible benefit in using a finer soil type such as a sandy loam or finer textured soil, the soil problems that will occur are;

- Increased soil compaction;
- Reduced infiltration rate;
- Waterlogging;
- Reduced root growth; and
- When fine textured soils become dry, they become hard and difficult to rewet.

These aspects can be managed to a certain degree but it will result in increased maintenance costs.

The infiltration rate varies between soil types (Table 1) and for efficient irrigation it is important that the precipitation rate of the sprinklers don't exceed the infiltration rate of the soil. If the water applied exceeds the infiltration rate it will be lost to evaporation and runoff. On heavier soil types with low infiltration rates, cycle and soak programmes need to be employed to ensure that the profile can be wetted up effectively without wasting water.

## IRRIGATION SCHEDULING

The three key pieces of information required to establish the depth of water that needs to be applied during an irrigation cycle are;

- Water holding capacity of the soil (WHC);
- Depth of the rootzone; and
- Allowable depletion of soil water storage prior to refill.

Geoff Connellan, in his excellent book 'Water use efficiency for irrigated turf and landscape' (2013), provides detailed examples of how to work through the process of determining how much water is available in the soil and how to create the starting point for establishing a well-planned irrigation management plan.

Based on one of these examples, the following is provided;

- **Turfgrass species:** Couch.
- **Rootzone depth (RZD):** 250mm.
- **Sandy loam soil:** Available water holding capacity (AWHC) 120mm/m (from Table 1).
- **Managed allowable depletion (MAD):** The MAD is often set at 50 per cent but can be modified depending on the reaction of the turf and the required quality of the surface. It may also need to relate to the playability characteristics such as surface hardness. It is possible to use a portable soil moisture probe or in-soil sensors to establish the MAD or the point where the

Figure 1: Indicative Water Retention of Soils

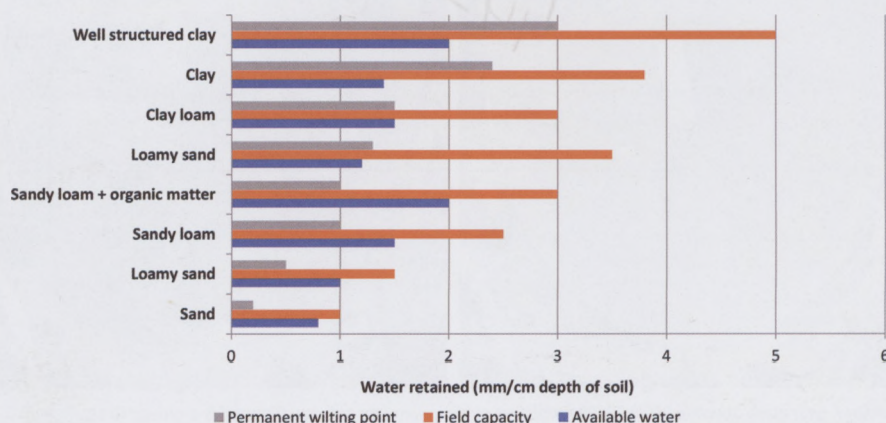




TABLE 2: IRRIGATION FREQUENCY BASED ON AWHC

Soil type	Available water of soil (mm/m)	Water storage (mm)	Irrigation frequency (days)
Sand	70	7	2.3
Sandy loam	120	12	4
Clay loam	165	16.5	5.5 (say 6)

Turfgrass: Couch  
 Root depth: 200mm  
 Evapotranspiration: 3mm/day  
 MAD: 50%  
 Water storage (sand) = Available water (70/1000) x RZD (200mm) = 14.  
 MAD = 50%.  $14 \times 0.5 = 7\text{mm}$

turf manager deems irrigation is necessary. In this example the MAD is set at 50 per cent.

In calculating the water stored in the rootzone:  $\text{AWHC} \times \text{RZD} = (120/1000) \times 250 = 30\text{mm}$  stored or available to the plant. If irrigation is initiated when the storage is 50 per cent depleted (MAD 50 per cent), then the storage will be refilled when the plants have extracted 15mm.

Given that many irrigation systems have less than 100 per cent efficiency, then the application of water needs to be adjusted for the reduced efficiency. If the system is 80 per cent efficient, then the application of water will be:

**Irrigation depth (ID)** = Replacement amount  $\div$  irrigation system efficiency ( $E_a$ ) =  $15\text{mm} \times (1/0.80) = 18.8\text{mm}$ . The irrigation system needs to be operated for enough time

to apply 18.8mm to refill the profile to the depth of the root system.

The next critical aspect is determining the timing of irrigation. Setting the controller for 10 minutes/station every day is meaningless and most likely will be an inefficient use of water. The time between irrigation events is the 'irrigation interval'. If the storage is large or plant water use is low then there will be longer irrigation intervals. The water extraction rate (due to evapotranspiration) is extremely variable and is strongly dependent on the weather conditions.

**Irrigation interval** = Allowable depletion depth/ $ET_c$  (where  $ET_c$  is the evapotranspiration rate for the specific grass species and the predetermined crop factor). The daily water requirements for the turf needs to be determined using local weather data (i.e. Evaporation – A Class evaporimeter and

rainfall) and knowing the appropriate crop coefficient for the site. The crop coefficient can vary depending on the turfgrass species and the turf quality requirements (examples are provided in Connellan, 2013, and Handreck and Black, 2010).

Considering the example above, where the refill point is 15mm and if the daily evapotranspiration rate over a given period is 3mm/day, then irrigation would take place every 5 days (i.e.  $15\text{mm}/3 = 5$  days). The question is – how does this fit with your irrigation programme?

Now back to soil type. If we work on the presumption that a finer soil type with a higher available water capacity will require 'less water' we can test this theory. The most important factor to remember is that **plant water use is weather related**. The hotter and drier it is, the higher the evaporation and therefore the evapotranspiration rate of the turfgrass will be greater. Table 2 (above) provides an example of the irrigation interval for different soil types and the quantity of water that needs to be applied to refill the profile.

While the fine textured soil holds more water and the irrigation interval is longer, it requires more water to refill the profile. This could be a significant challenge for most turf managers, particularly where the soil infiltration rates are low.

The next question then becomes – how does this relate to the way you irrigate?



Warm-season grasses, such as couch, have deep root systems that can exploit moisture at depth. However, couch fields are rarely irrigated to the depth of the rootzone as a method of water conservation





The infiltration rate of soils is a very important characteristic when managing sports fields both in terms of drainage and irrigation. Effective drainage of sports grounds is critical in maintaining the performance of the field



## CONCLUSIONS

The efficient use of the available water supply is not only environmentally responsible but also affects the quality of the playing surfaces. There is a general desire to reduce water use for environmental and economic reasons and has been at the forefront of turf managers' minds for at least 20 years as the pressures on the available water supplies have increased. However, while the intent is very good, there seems to be a desire to have a 'quick fix' to achieve the outcome of reduced water use.

Making the most of the available water for irrigating sports fields is a combination of good system design, flexible control, regular maintenance and auditing of the irrigation system, as well as having a good understanding of plant water use requirements. Turf management also strongly influences water management and water use efficiency.

The effective use of the available water resources cannot be achieved without considering all of these aspects. If one or

several of these aspects is neglected, efficient water use cannot be achieved. To reduce water use and to maintain an acceptable turf quality requires having an irrigation management plan that is aimed at a high level of water use efficiency.

The performance and management of the irrigation system must be evaluated on a regular basis. This includes both the operation of the irrigation system (i.e.; the mechanics of the system and how uniformly water is applied) and how well the system was managed over the irrigation season (i.e.; the amount of water applied compared to the amount that should have been used). I am quite convinced that water use can be reduced through;

- Improving irrigation programming based on plant water use, root depth and weather conditions;
- Fixing up defects in the irrigation system;
- Introducing a methodical irrigation system maintenance plan.

In terms of using finer soil types to reduce water use, I don't believe that from a holistic point of view that this has much merit. My mantra for many years is that good drainage is the key to maintaining good quality playing surfaces that can tolerate high hours of use. Exploiting the deep root systems of warm-season grasses is an underutilised attribute that can optimise use of the available water.

Again, whether managing irrigation on sand or loams, it still involves the same basic principles of understanding water holding capacity, infiltration/drainage rates, susceptibility to compaction and aeration porosity. There are no short cuts to reduce water use or improve water use efficiency.

## ACKNOWLEDGEMENTS

John Neylan is a turfgrass agronomist with Melbourne-based Sporteng.

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Drought-affected couchgrass will survive. Root exploration capacity is a strong feature of warm-season grasses which provides them with greater access to soil water reserves



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TOURNAMENTS



All set for  
**Sawgrass**





*The famed island green of the par three 17th at TPC Sawgrass*

*In March 2020, four superintendents – three from Australia and one from New Zealand – will be winging their way to TPC Sawgrass in Florida to be part of course preparations for golf's unofficial 'fifth Major' – The Players Championship.*

**T**he Stadium Course at TPC Sawgrass in Florida has witnessed many memorable moments since it was purpose-built to host The Players Championship in 1982.

The world's best annually descend on the Stadium Course for what is dubbed golf's 'fifth Major' to compete for the highest prize purse of any professional golf tournament, a whopping US\$12.5 million.

Designed by renowned golf course architect Pete Dye and owned by the PGA Tour itself, TPC Sawgrass has proven to be a happy hunting ground for Australian professionals over the years. Greg Norman went wire-to-wire to win in 1994 and Steve Elkington did likewise three years later, adding to the title he won in 1991. Elkington is one of five players to win the event twice and the only international player to do so.

In 2016 Jason Day would emulate his countrymen in setting a 36-hole record of 15-under before cruising to victory. It was part of an incredible run of victories for Day at the time. Adam Scott also saluted in 2004.

While TPC Sawgrass has seen many sublime moments, it's the course's iconic 132-yard par three 17th hole that continually captivates golfing audiences each year. The famous island green, with no bailout area, makes for riveting viewing and across the tournament's four days tens of thousands of

spectators flock to witness the good – eight hole-in-ones have been recorded over the duration, the last in 2016 – and the bad.

It has been the stage for many a seasoned pro to come unstuck, with Bob Tway holding the ignominious record of having the most shots on the hole – 12 – during the third round in 2005. Such is its tricky nature, especially when the wind is up, tournament officials even keep stats on the number of balls that end up in the water. 2017 was a particularly bad year, with 69 balls going the way of the wet stuff across four rounds, 29 alone in round two.

But that was nothing compared to the first round of the 1984 tournament in what would be, statistically, the worst single day in the hole's history. With gusts of up to 70 kilometres per hour turning club selection into a lottery, a total of 64 balls found the water in that round alone. The stroke average for the hole on that day was 3.853, the highest it has ever been in any single round since the event moved to the Stadium Course.

After 12 years of being held in a May timeslot, the 2019 Players (won by Rory McIlroy) shifted back to its traditional March date. For the course management team, headed up by director of golf course operations Jeff Plotts, that meant preparing and presenting a golf course with oversown turf surfaces. At the start of each November, the Stadium Course is closed for wall-to-wall



*Left: Meadowbrook Golf Club's Luke Helm is one of four superintendents from Australia and New Zealand that will get the opportunity to be involved in preparations at The Players Championship, thanks to John Deere and the Australian Sports Turf Managers Association*



## TOURNAMENTS

*Tony Gordon, pictured presenting at the 2015 Australian Turfgrass Conference, spent eight years at the MCG (five as arenas manager) before joining The National Golf Club in late 2017*

oversowing. The TifEagle greens are oversown with *Poa trivialis* and velvet bentgrass, while the Celebration couchgrass tees, fairways and roughs are oversown with a ryegrass/fine fescue mix.

For the tournament itself, Plotts, together with assistant director of golf course operations Lucas Andrews and Stadium Course superintendent Kyle Elliott, orchestrate a veritable army of crew and course volunteers to ensure the venue is in pristine condition. Operating an enviable fleet of John Deere equipment, conditioning standards are, as expected, among the best on the PGA Tour.

### FAB FOUR

Earlier this year, the Australian Sports Australian Sports Turf Managers Association (ASTMA), together with Silver Partner John Deere, launched The Players Championship (TPC) Volunteer Program. The program affords three ASTMA members and one NZGCSA member the opportunity to be part of the course crew at the 2020 tournament and gain an incredible insight into major event preparation.

Applications opened in March and the ASTMA was inundated with more than 80 members registering their interest. After filling in the initial application, those who were selected for the next stage were asked to submit a five-minute video introducing themselves and briefly addressing a number of pre-determined topics.

The purpose of the video was for the selection panel to gain an understanding of the applicant as an individual, their career aims and ambitions and the positive impact the opportunity to take part in the TPC Volunteer Program would have for them and their course. Those who progressed through that phase were then asked to attend a final face-to-face interview.

After a rigorous selection process, in November the ASTMA and John Deere were delighted to announce that the four successful applicants for the inaugural trip were;



- Tony Gordon (The National GC, Vic)
- Luke Helm (Meadowbrook GC, Qld)
- Tim Hoskinson (Cairns GC, Qld)
- George Flynn (Pukekohe GC, NZ)

The quartet will arrive in the US the weekend before the tournament and will spend nearly two weeks at TPC Sawgrass. In addition to helping with course preparations, they will also get the unique opportunity to play the famous 17th hole in a nearest-the-pin competition on the Monday after the final round. All four will regularly post about their experiences on social media and will also present at seminars and conferences throughout the year.

Following their announcement, Australian Turfgrass Management caught up with the successful candidates to find out a little more about their backgrounds and what they hope to get out of their trip to TPC Sawgrass.

### TONY GORDON

**Course Manager, Moonah and Gunnamatta courses, The National GC**

The opportunity to volunteer at TPC Sawgrass will be a homecoming of sorts for the man known affectionately by many in the industry as 'Flash'. Since landing in Australia in the early 2000s, the American has had a rich and varied sports turf management career,

highlighted by eight years not only working on, but in charge of, the hallowed turf at the Melbourne Cricket Ground (MCG).

Those who attended the 2015 Australian Turfgrass Conference in the Hunter Valley will recall Gordon's backstory. Originally hailing from Johnston, just north of Des Moines, Iowa, he started his turf career as a summer and weekend casual at Hyperion Field Club. After earning a Bachelor's Degree from Iowa State University, Gordon completed an internship at River Crest Country Club in Fort Worth Texas. The internship allowed him to gain some valuable warm-season grass experience that he hadn't been exposed to in Iowa, where bentgrass fairways, tees and greens are the norm.

Upon graduation, Gordon gained the assistant's role at Columbine Country Club in Denver, Colorado, where he was charged with completing the grow-in and set-up of a nine-hole par three short course, while looking after an 18-hole championship course. Columbine annually hosted a US Open regional qualifier and after being involved in that it was Gordon's desire to one day be a superintendent of a Tour-hosting course.

All that changed, however, after he met an Australian girl and soon they were married and migrating to Melbourne. Despite trying



*Tens of thousands of spectators cram the surrounds of TPC Sawgrass's 17th hole each year to witness one of the most captivating par threes on the PGA Tour*





PHOTO: LUCAS ANDREWS

**TPC Sawgrass's Stadium Course has hosted The Players Championship since 1982. Purpose-built to host the tournament, it has been the setting for five Australian victories, with Steve Elkington winning it twice in 1991 and 1997**

to organise a job while still in the US, upon arriving in Melbourne Gordon went from shed to shed looking for a job to get his foot in the door. At the time, a new development was in the wings down on the Mornington Peninsula – the Tom Doak-designed St Andrews Beach – and after a short time at RACV Cape Schanck, Gordon joined the construction team there.

After the development hit troubled times, Gordon worked for a local irrigation company before taking a punt and putting in an application for the vacant assistant arenas manager role at the MCG. Not thinking he stood a chance, Gordon got the gig and, with the support of the Melbourne Cricket Club, began a Master's Degree which he completed in 2014 through Penn State University. In August 2012 he was promoted to arenas manager – an American in charge of Australia's most hallowed turf – and in 2014 helped oversee the \$1.7 million resurfacing of the venue.

After five years in the main role, and enjoying every minute of it, Gordon departed to join The National Golf Club on the Mornington Peninsula in 2017. As well as being a lot closer to home, it also afforded him the opportunity to reconnect with Doak who the club had engaged to redevelop what was then the Ocean Course. Gordon has now been at The National for two years and played a major role in the complete reconstruction and grow-in of what is now known as the Gunnamatta course, which has only been open for 10 months. He also oversees the much-lauded Moonah course.

Although having experienced a lot during his turf management career, being involved in preparing a golf course for a Tour-level event

is something that Gordon is very much looking forward to come next March.

"We hosted a big state tournament at Hyperion in Iowa each year, and the US Open Qualifier at Columbine really got me interested in tournament golf," reflects Gordon. "But after getting married, migrating to a new country and starting a family, your priorities change.

"Being a part of the construction and grow-in of two golf courses, either side of a very busy 8.5 years at the MCG, I haven't had the opportunity to volunteer on the course preparation side of an event. I'm really looking forward to being a part of the presentation of TPC Sawgrass and seeing the world's best performing on those surfaces.

"The 'fifth Major' at TPC Sawgrass is such a unique event. I have seen several videos and social media posts of volunteers who have participated in events like this, and they all say it is so beneficial and something they will always remember. I think the excitement level and atmosphere the Stadium Course brings, particularly around the 17th, may only be rivalled by the Ryder Cup or a major like The Open.

"I am really looking forward to playing my part in setting the stage, in whatever capacity that may be. I am sure there will be some long hours, and perhaps Mother Nature may throw us a challenge or two, but that just makes it all the more worthwhile."



**Having already been involved with course preparations for a PGA Tour event, Cairns Golf Club superintendent Tim Hoskinson is looking forward to having another opportunity to be involved at the highest level**





*The 2019 Players Championship moved back to its traditional March timeslot, meaning the tournament was played on oversown surfaces*

With the return of the tournament to March, Gordon is also particularly interested in how the oversown playing surfaces will present. "We have fescue fairways on the Moonah Course and huge new fescue surrounds on the Gunnamatta Course," explains Gordon. "I will be interested to see how some of the more intricate areas of TPC Sawgrass are seeded and what machinery they use to get the best result. This could benefit our potential plans for regular overseeding to maintain the quality of our surfaces."

## LUKE HELM

### Superintendent, Meadowbrook GC

Originally from Sydney, Luke Helm has been course superintendent at the 27-hole public access Meadowbrook Golf Club just south of Brisbane for the past two years. Helm completed his apprenticeship in western Sydney at the Rum Corps Barracks Golf Club, before spending a year at Ashlar Golf Club then accepting the role of assistant superintendent at Windsor Golf Club.

After two years at Windsor, Helm headed to the Gold Coast and after working on a turf farm and for a turf renovation/construction company, got back into golf at Colonial where he would eventually rise to be assistant superintendent. After seven years at Colonial he then successfully applied for his first super's role at Meadowbrook.

At the start of his career, Helm volunteered at the 2005 Australian Open held at Moonah Links on Victoria's Mornington Peninsula.

It opened his eyes up to the level of detail required to get a course up to tournament scratch. Now as a superintendent in his own right, Helm is relishing the opportunity to be involved in major event preparation again and hopes to gain a number of experiences from his time at TPC Sawgrass.

"I'm really looking forward to seeing the attention to detail and how they carry out their practices to peak at tournament time," says Helm. "Getting the greens to the perfect speed and performance is something I'm really looking forward to seeing."

"With similar grass types to my course, it will be a great opportunity to learn how the very best in the business manage their surfaces. We oversow our surfaces in winter here at Meadowbrook and I'm hoping to broaden my knowledge by looking at their practices and learn some ways I can improve the management of my surfaces. With the tournament played on oversown surfaces, I'm very interested to learn their methods, especially the transition back to couch in the summer."

"It will also be a great opportunity to meet new people in the industry and have the chance to discuss ideas around our practices. And from a superintendent perspective, it will be fascinating to watch Jeff and his team pull together and see how they handle the pressure of preparing for such an event."

## TIM HOSKINSON

### Superintendent, Cairns Golf Club

Hoskinson, who ATM readers will recall from last edition's Regional Profile (ATM Volume 21.5), has been superintendent at Cairns Golf Club in Far North Queensland for the past two years. His first superintendent posting, it is the culmination of what has been an interesting journey in turf to date for Hoskinson, one that started back in Sydney as an apprentice at Manly Golf Club in 2001.

Hoskinson is no stranger to the US style of golf course management, having spent time on The Ohio Program in 2006 and 2007. During that time he was stationed at Robert Trent Jones GC (Virginia), Scioto CC (Ohio) and Congressional CC (Maryland). He was at the latter when it hosted Tiger Woods' AT&T National PGA Tour event where he was fortunate enough to change the back nine holes. The chance to be a part of another PGA Tour event, through the TPC Volunteer Program, was too good an opportunity for Hoskinson to pass by.

"Sawgrass is a Mecca of tournament golf, especially given it was designed with spectator viewing in mind," says Hoskinson. "When I heard about the opportunity, I couldn't wait to apply. With somewhat similar weather patterns and turf varieties to Cairns, I believe I can take a lot out of the experience to bring home to my course."

"The buzz of working at a tournament is super exciting, not to mention the famed 17th hole. I was lucky enough to be working



**JOHN DEERE**  
GOLF



*Sawgrass*



at Congressional for the AT&T National and it was such an exciting time to be involved. I learned a huge amount about how far you can push turf and the type of standards that can be achieved. I believe my time there helped me develop my skills immensely and taught me to always strive to produce top quality turf surfaces.

"Experiences like this are an amazing learning curve. There is so much that goes into organising these tournaments and I feel like I'll be able to incorporate many of these features into my career. This includes everything from the organisational aspects, the agronomy programmes, different aspects of both the golf course setup, design and playability, as well as the maintenance facility.

"It will be great to show my team some photos, so that they can have an understanding of what goes into a tournament and how great a course can look. I have no doubt I will be able to incorporate some of the aspects of the Sawgrass maintenance regime into our practices, which will help to lift the standards here at Cairns."

## GEORGE FLYNN

### Course manager, Pukekohe Golf Club

Just like their Australian counterparts, Kiwi greenkeepers are renowned the world over for their passion, hands-on skills and their strong



*Pukekohe Golf Club course manager George Flynn will be flying the New Zealand flag at TPC Sawgrass*

work ethic. And it's these traits that Flynn, superintendent at Pukekohe Golf Club just south of Auckland, will be hoping to display when he lands at TPC Sawgrass next March.

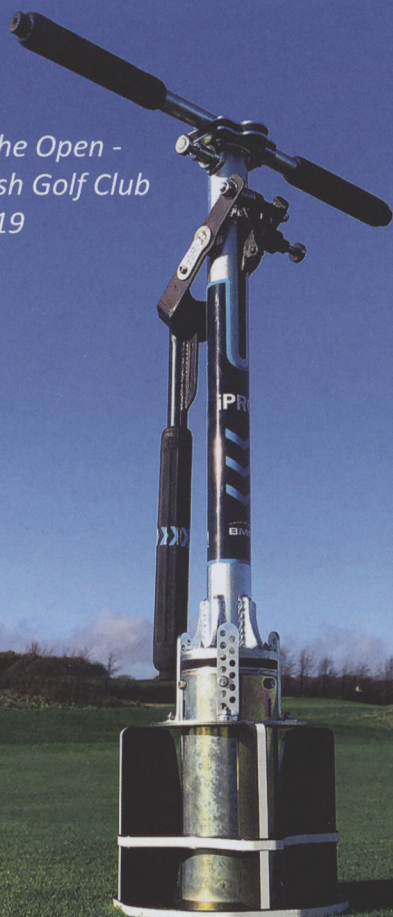
Flynn began his career at one of New Zealand most exclusive establishments, The Royal Auckland Golf Club, in 2012. After finishing his apprenticeship he began working at Pukekohe as the assistant course manager and after just nine months found himself promoted to the course manager role.

During his career to date, Flynn has volunteered at the New Zealand PGA Championship, held at Remuera Golf Club, as well as assisting with course preparations for numerous Charles Tour events at Akarana Golf Club, also in Auckland. At such events Flynn got a taste of what it was like to ensure a golf course is prepared to absolute perfection and can't wait to take that to another level when he heads to Florida.

"This will be a great opportunity to get out and mix with some of the best golf course turf professionals in the world," says Flynn. "The experiences and learnings that I am sure to gain over the two weeks will be highly beneficial to my career. I often find that you can learn a lot just by chatting to the guy next to you and I'm sure this will be the case at TPC Sawgrass. To be able to be part of a team that is preparing a golf course for one of the top golf tournaments in the world is sure to be special.

"I also believe that the more us Kiwis get to mix it with the best and learn from them the better. Kiwis are often considered to be hard working and dedicated, yet humble individuals. I'm going to do my best in my time there to reinforce those thoughts throughout the international greenkeeping scene, as well as bring back some knowledge and skills that will help assist my club." 🌿

*Used at - The Open -  
Royal Portrush Golf Club  
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**W**hat does the golf club "board of the future" look like? It's a pressing question today among golf course superintendents and general managers as the rules for success in the golf sector are constantly being rewritten.

The rise of 'RegTech' (the use of new technology to facilitate the delivery of regulatory requirements), evolving customer and member expectations, the pressure of increased regulatory scrutiny and new requirements that focus on enhanced governance, are challenging the role and nature of traditional boards.

Boards must be prompted of the importance of taking a critical look in the mirror to seriously consider what their 'board of the future' should look like. As Australian public figure and leading businessman David Gonski says, "The clever board doesn't increase risk, it takes a calculated look at risk."

It's not unreasonable that every superintendent should have high and specific expectations of their board. Ideally, every board should have a statement that articulates their governance and risk appetite and confirmation that each board member knows 'what lane to swim in'.

The board's swimming lane is setting strategic direction and governing. The superintendent's lane is interpreting and helping execute the board's strategic direction in relation to golf course maintenance and management operations. The last thing a

*“Board members are a powerful resource. They can propel everything the business does. A board that can accept the role of the superintendent and GM as a partner in risk management can push their club to fulfil every bit of its potential.”* -Terry Muir

superintendent wants is a board swimming in his or her lane and being 'over-engaged'.

An over-engaged board micromanages staff, gets involved in course maintenance operational discussions and engages itself in managing daily operations rather than governing. The 'future board' will possess the

skills to explore and gain insights into 'knowing what they don't know' on risk and governance with an understanding of what 'staying in their own lane' means.

As technological and economic forces combine to exert new pressures on the industry, clubs must modernise their boards and their operations for the new economy.

Clubs should waste little time implementing real change in their boardrooms to meet emerging challenges in the fast-evolving and increasingly complex global environment in which golf will operate.

The rising need for RegTech is a standout example. RegTech is the management of

*While course superintendents are often the ones doing the heavy lifting when it comes to ensuring EHS compliance at their facility, as Terry Muir writes golf club boards also need to be fully engaged and know their responsibilities, as well as their boundaries.*

## Staying in your lane

regulatory processes through technology and its main functions include regulatory monitoring, reporting, and compliance.

Many clubs have now focused on embracing regulatory technology solutions to help achieve compliance and minimise risk. Why? Because every insurer, every regulator and every staff member, club member and contractor want to see the club strengthen its core risk management governance, controls, practices and reporting. Every club should be engaging in regulatory technology solutions. Its promise is proven and includes increased revenue, reduced costs, streamlined processes, efficiency gains and reduced risk.

For a club board to deliver future success, key capabilities to consider include;

- Being informed and highly proactive with a clear understanding of emerging risks and issues;
- Equipped to consistently address risks;
- Having the acumen to understand the golf business challenges and listen to the experts and their advice;





*A board's swimming lane is setting strategic direction and governing. The superintendent's lane is interpreting and helping execute the board's strategic direction in relation to golf course maintenance and management operations*

senior officers. They are looking for the infrastructure, including the right systems, processes and talent, to help ensure a high degree of management attention on managing environment and safety risks.

Board members need to be doubly careful to meet their environment and safety obligations as regulators have toughened up their approach to prosecuting breaches. The tough stance comes as Australian governments and regulators ponder the recommendations of a review led by former executive director of SafeWork SA Marie Bolland.

The review made a series of recommendations, including tougher penalties for breaches, the introduction of industrial manslaughter laws and removing the right of duty holders to recover penalties through insurance or indemnification.

Officers, directors and board members who fail to take preventative action to ensure the health and safety of their workers and the protection of the environment can be held personally liable for any acts or omissions by the company, its employees and contractors. Golf club board members who want to lead environment and safety cultures should consider;

- Implementing an appropriate EHS management system as a starting point;
- Setting up systems and procedures to ensure that instructions are actively complied with by employees and contractors;
- Incentivising management and supervisory staff to champion safety;
- Appointing safety 'champions', linking safety improvements to KPIs and rewarding safety-conscious behaviour;
- Measuring environment, health and safety outcomes.

Board members are a powerful resource. They can propel everything the business does. A board that can accept the role of the superintendent and GM as a partner in risk management can push their club to fulfil every bit of its potential. With the right board and the right technologies, clubs can identify systemic weaknesses and pinpoint areas for future focus. 🏌️

- Diversity in relation to gender, age, skill set and digital acumen;
- Lifting their technology and digital literacy;
- Making risk-based decisions on the proposals put forward by the executive;
- Non-industry experience that can bring valuable new insights;
- Creating and sustaining modern cultures and values for their club;
- Promoting a healthy 'decision culture' that provides opportunities to challenge risk decisions from diverse management perspectives.

There is no doubt superintendents are doing the heavy lifting when it comes to environment, health and safety risk (EHS) and I have seen a massive shift in the way they manage their extraordinarily large EHS risk inventory.

Just recently I saw the final results from the risk reduction campaign of one Sydney based superintendent. Assessing the typical 200-plus EHS risks on their site, within 12 months the risk profile of course operations had changed

from 76 risks of concern to just 28. What's more, risk activities classed as 'extreme' had been eliminated. Of the remaining 28 EHS risks;

- Activities assessed as 'high risk' had almost halved and are now assessed as 'medium risk'; and
- Activities now assessed as 'low risk' had increased fivefold;

This shows that risk management is taking a much more prominent role with many superintendents. They are dedicated to thinking about their management practices and the intersection between their course maintenance activities, risk management and compliance. Their clubs are stronger as a result. How? They got their board/staff relationship in order by working to create the right kind of board engagement. This is key to a healthy board/staff working relationship.

As regulators shift their focus towards ensuring that golf clubs have the capabilities to identify and manage risks as they emerge, they are taking a closer look at boards and

PHOTO: DECHEVIM - STOCK.ADOBE.COM





One of the priorities at Glenelg has been to reinvigorate the course with new plantings. Pictured is the 8th tee and its new surrounds



PHOTOS: MONINA GILBEY

# Glenelg's biodiversity boost

*Monina Gilbey, biodiversity manager at Glenelg Golf Club, looks at some of the measures being implemented to help enhance and beautify the Adelaide-based course's out of play areas.*

Imagine enjoying a round of golf surrounded by colourful wildflowers, grass heads swaying in the breeze and a wide variety of bees, birds and butterflies darting around the course. That's the image that course superintendent Tim Warren and I have of a future Glenelg Golf Club experience.

Glenelg hasn't had a vegetation officer for over 10 years. Since Tim and I started here 18 months ago, we have established a team of two part-time vegetation staff, which equates

to 1.5 full-time equivalent. Our vegetation team has removed over 30 cubic metres of senescing plants, weeds and dead plant material during that time.

Due to suffocation from weeds, much of our remnant vegetation has disappeared. One of our colleagues – Ian 'Henry' Lawson from Royal Adelaide Golf Club – told us that the seeds are around – we just had to find them. As we have cleared areas of weeds and deep pine needle litter, we have discovered that Henry was right. We have subsequently

identified and protected up to 20 local indigenous plant species, including:

- Sticky hop bush (*Dodonea viscosa*);
- Native scurf pea (*Cullen australasicum*);
- Common everlasting (*Chrysocephalum apiculatum*);
- Muntries (*Kunzea pomifera*);
- Coast groundsel (*Senecio pinnatifolius*); and
- Creeping boobialla (*Myoporum parvifolium*).

We are also finding more plants as we change our weed management practices by avoiding spraying in some areas.

One of our priorities has been to reinvigorate the course with new plantings. More than 1500 indigenous plants of local provenance have been planted. Members have said that they are enjoying a more colourful course that changes with the seasons.

## ECOLOGICAL BURNS

In Australia, fire is a natural event and can greatly assist plant regeneration. After part of our course was burnt accidentally – the council verge caught fire and jumped our fence – creeping saltbush (*Atriplex semibacatta*) appeared. Next to the *Atriplex* was a shrub which is rare in Adelaide – the Coast bitterbush (*Adriana quadripartita*).



The bitterbush had been suffocated by weeds and, after the weeds were removed, wasn't looking healthy. However, the fire regenerated the shrub and it is now a healthy specimen. The bitterbush is a much-needed host plant for the endangered Bitterbush blue butterfly (*Theclinesthes albocincta*), so the regeneration of the Coast bitterbush isn't just good news for us.

Since then, our team has been trialling controlled burns to return some of our areas back to sand and to burn off dead plant material and weeds – which reduces staff time and green waste fees. We have found that spraying an area the week before the burn, to dry out the weeds, provides more biomass. We don't require permits from local authorities if we are burning outside of a fire ban season. Our only requirements are to notify emergency services and the nearby Adelaide Airport.

Burning is an effective way to remove overgrown Knobby club rush (*Ficinia nodosa*). After the plants have been burnt, the plant nodules can be removed – it is much easier and quicker than digging them out manually.

## PROMOTING BIODIVERSITY

Biodiversity is the shorted version of 'biological diversity'. Biodiversity refers to the variety of all living things – plants, animals, fungi, micro-organisms – and the ecosystems they create. We believe that the parcel of land upon which Glenelg Golf Club resides presents an opportunity to create a place for local fauna, as well as a conservation ark for remnant vegetation and valuable seedstock for future generations.

We are working on a Biodiversity Management Plan to protect our course and futureproof our current investment. The plan...

- Sets out management options to protect and care for our vegetation;
- Outlines threats to biodiversity and ways to manage those threats;
- Provides a record of the fauna and flora;
- Allows us to plan programmes so we can be proactive, rather than reactive.

The plan will also document processes and information on weed control methods, management of pests and controlled burns – so that the emergency services don't pay us an unexpected visit! A Riparian Zone Management Plan, written by a consultant, will be an appendix to the Biodiversity Management Plan.

Promoting a more biodiverse course may seem like an environmental utopian ideal, however, increasing biodiversity can have benefits. A local men's shed has made a microbat box for us to trial. Microbats can eat up to 1200 insects an hour, or half their body weight in insects per night. With our numerous watercourses, this will help us with insect

*Ecological burns have become an important management tool at Glenelg*



control and reduce the need for and costs of pesticides.

We are hoping to spread our biodiversity message through member biodiversity updates and involving members in nursery work and weeding. There are opportunities to include the wider community by involving a local school in creating a biodiversity hotspot or making bee hotels. Our local men's shed has made owl boxes and rosella boxes which will be installed next year. We aim to create vegetation corridors on our course and, in time, we hope to work with nearby golf courses to connect to their vegetation.

We are playing a long game to reach our vision, but we are getting there. More plants are being uncovered and we are seeing plants self-seeding which is very encouraging. A biodiverse course is not only beneficial in creating a natural-looking landscape for our members to enjoy, a variety of flowering plants creates colour and interest and provides much-needed habitat for our local fauna.

**Editor's Note:** Glenelg Golf Club joined with



*The vibrantly coloured Coast groundsel is among up to 20 indigenous plant species that have been identified and protected at Glenelg Golf Club*

Melbourne's Eastern Golf Club to host an ASTMA environmental management education seminar in late October. Held in conjunction with ASTMA Gold Partner Syngenta, the free seminars gave the likes of Monina Gilbey (Glenelg) and Bivek Inderjeeth (horticulturist, Eastern GC and 2019 ASTMA Claude Crockford Environment Award winner) the chance to showcase the great work being achieved at their respective clubs. 🌱



*More than 1500 indigenous plants of local provenance have been planted at Glenelg over the past 18 months*





Dealing with a natural disaster and the trauma of it can take a huge toll on a person's mental health. Make sure to look for warning signs for those who may be struggling to cope

# Traumatic times

*With a horror start to the bushfire season, HR expert Vicki Crowe provides some timely advice on how to support a work colleague who may be experiencing difficulties following a major trauma or natural disaster.*

**W**ould you know how best to support a person who has experienced an emergency, disaster or traumatic event? According to employee counselling organisation Acacia Connection, people who have, or are, experiencing an emergency, disaster or traumatic event can have physical, psychological, emotional and behavioural responses which can impede a person's ability to cope.

During and after an emergency, like the recent catastrophic bushfires in NSW and Queensland, people can lose trust in social norms and networks. As a result, we may experience a range of thoughts and feelings that can be confusing and frightening. Social norms are the unwritten rules or guidelines about how we behave. Most of us, the majority of time, conform to these guidelines according to the roles we perform. These are some of the feelings and responses with grief and loss;

Feelings	Responses
Fear	Sleeping difficulty
Confusion	Aggression
Sadness	Mood swings
Anger	Obsessive
Depression	Reliving events
Anxiety	Being in a haze

If you are aware that someone has experienced a trauma or gone through a

natural disaster, keep an eye on them as to whether there have been any changes to their behaviour lately that might give you an indication they are not okay.

Suicidal behaviour often starts with thoughts of suicide which develop in intensity if the contributing factors are not addressed. Stressful life events, grief and trauma exposure are some of the contributing factors of suicide. You may hear someone who is feeling suicidal say things which suggest that they;

- See themselves as a burden;
  - They can't see a way out of their situation;
  - Are feeling a sense of hopelessness.
- Warning signs may include;
- Withdrawing from family and friends;
  - Sleeping or eating changes;
  - Loss of interest in things they previously enjoyed;
  - Irritability, mood swings or becoming easily upset
  - Decreased work performance;
  - Self-harming behaviours;
  - Risky behaviour (alcohol or drug use);
  - Stopping making future plans; and
  - Giving items or belongings away or wrapping up their affairs.

Acacia has provided the following tips to assist with coping with an emergency;

- Take 10 slow, deep breaths. Focus on breathing out as slowly as possible until your lungs are completely empty and then allow them to fill back up again. Let your

thoughts come and go as if they are just passing cars, driving past you.

- If you are feeling anxious, try to look up. By looking up we make ourselves aware that nothing is weighing us down. By doing this we become aware that it's our thoughts that are making us feel the way we do. This also allows us to take in more oxygen which helps us calm down.

- Writing down your thoughts allows you to unpack the experience and evaluate issues. It is a great stress management tool that lessens the physical impact of stress on your overall health.

Strategies recommended by Acacia that can be helpful in the days and weeks following a traumatic incident include;

- Accept that it takes time to overcome traumatic events;
- Try to keep life as normal as possible (routine can be helpful);
- Attempt to do those things that you are fearful of as soon as you feel able to do so;
- Break down difficult tasks into more manageable stages;
- Accept help from others or seek counselling support;
- Give yourself time to think about what has happened but also recognise that healthy distraction is helpful too; and
- Importantly, DON'T bottle up your feelings, expect too much of yourself and avoid making any life changing decisions. 🙏



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## REGIONAL PROFILE

*For a one-man operation, Harden Country Club boasts some exceptional turf surfaces and recently hosted the Australian 2-man Ambrose Championship to much acclaim*



*ATM profiles Benjamin Glover who is in his second stint as course superintendent at Harden Country Club in regional NSW.*



# Harden Country Club, NSW

**Superintendent:** Benjamin Glover (40).

**Nickname:** Benny or Banjo.

**Family:** Wife Karen and children Jack (16) and Jesse (14).

**Period as a superintendent:** 11 years.

**Association involvement:** Australian Sports Turf Managers Association.

**Turf management career:** Apprenticeship at Garangula Polo Club; superintendent at Harden Country Club, five years; superintendent Yass Golf Club, five years. One year into second stint at Harden CC.

**Turf qualifications:** Certificate III Horticulture and Turf.

**Major hobbies/past-times outside of turf**

**management:** Golf, bowls, rugby league and fishing. Taking the kids to just about any sport there is!

**Where in Australia is Harden and what is the township known/famous for?** Harden is

located in the southwest slopes of NSW, about 1.5 hours northwest of Canberra and a similar distance northeast of Wagga Wagga. Harden is a twin town with Murrumburrah – the correct name is Murrumburrah-Harden – and together boasts a population of just 2200.

The township is famous as being the birthplace of the 1st Australian Horse infantry after the first muster and enrolments took place in 1897. To honour that, there is a bronze memorial statue in Murrumburrah featuring 'Bill the Bastard', a 17-hands-high stallion who was considered one of Australia's greatest war horses following his feats of courage and endurance during his service in the Middle East in World War I.

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

When I left school, I was involved in the shearing industry as my father is a shearing

contractor. I then did a pre-apprenticeship in carpentry. After that I moved to Wollongong to play rugby league and worked with builders and as a barman at the local club. I worked various other casual jobs and after five years Karen and I decided to head back home, get married and start a family.

Not long after returning home I started my apprenticeship at Garangula Polo Club located between Harden and Jugiong. Garangula hosts two or three tournaments a year and is owned by a family from overseas. It has three polo fields and many other areas that have manicured lawns and gardens.

I really enjoyed my time there, however, just as I had finished my apprenticeship the golf course superintendent's position came up at Harden Country Club. I loved my golf – I was a passionate single figure player – and I was lucky enough to be successful with my application.



*Harden CC superintendent Benjamin Glover (left) with general manager Chris Longbottom in front of what will be the new 10th tee and fairway recently sprigged with Wintergreen couch*

**Who were some of your early mentors in the industry?** My early turf mentors at Garangula were Mal Caruthers and Greg Stevenson. Also my TAFE teacher Peter Lawson had a big influence. They taught me how to maintain ryegrass in a harsh environment and couch management.

**You are currently in your second stint at Harden. Talk us through your initial posting there, the transition to volunteer maintenance and your subsequent return.**

Harden has been a fledgling club for a number of years and struggled to pay wages due to limited patronage. In July 2011, the club decided to switch to volunteer maintenance and unfortunately the course deteriorated over subsequent years. For a period of time they did have a paid labourer which the club put through TAFE, but prior to my return in December 2018 the course went totally voluntary for two years.

During this time I left to take over as superintendent at Yass Golf Club where I stayed for six years. The new board at Harden Country Club soon realised they needed an experienced golf course superintendent and after short negotiations I found myself heading back home.

Since arriving back at the course, I have focused on getting the greens back to a good consistent standard that will produce a true putting surface. I feel that I did achieve that to a point as the Australian 2-man Ambrose Championship, held in September, was fast approaching and proved to be a great success.

On returning after seven years absence, the greens had thatched up dramatically and the soil nutrient balance was way out



of alignment. We renovated heavily, applied required nutrients and implemented a strategic maintenance plan to ensure the best surface possible. Now that I have renovated the greens they are much better, but in saying that I don't think any superintendent is ever truly satisfied as there is always something that can be made better. Another major issue was the increase in couch encroachment which we have subsequently looked at as a long-term reduction strategy with Tupersan.

**Give us an overview of Harden CC and some of its unique characteristics from a course and turf management perspective. Is it an easy/hard facility to manage?** Harden CC is a fun layout that provides a fair and reasonable challenge to any level of golfer. The course lends itself to golfers of all abilities and ages and with the improving conditions will develop into a golfing destination. Hitting greens in regulation is paramount as the average size green is only 300 square metres in size. I am a one-person team that has to manage everything on the whole course, so it does have its challenges. It is what it is and I complete what I can. We do have volunteers but not nearly enough to get everything done.

**Take us through your turf management operations there. Aside from some of the immediate changes you implemented upon your return, what other management changes have you instituted?** I have implemented nutritional programmes that ensure our poor water quality (we use treated effluent) is ameliorated and the turf is growing at its optimum. With the major thatch issues and an extensive scarification programme in place, I also use minimal nitrogen. Our long-term goal is to sprig Wintergreen couchgrass into the fairways. We have already completed the 10th fairway and would like to do four fairways a year. I am also going to implement a programme to eradicate kikuyu encroachment on the greens. The use of Tupersan during the autumn months will be paramount in this endeavour.

**Any special environmental considerations that you have to incorporate into the management of the course?** We have an environmental management plan in place for the course. The use of effluent has the biggest environmental impact. This has been alleviated with the new Rain Bird IC irrigation system which allows us to water during the night.

**What are some of the major challenges facing Harden CC both from a turf management and general club management perspective?** The club, as with all regional clubs, faces industry-wide challenges of dwindling membership and receding profit margins, making it increasingly difficult to maintain the club's facilities and services, never mind being able to develop them. The golf course's condition is always directly

*Harden CC has just undergone a \$495,000 upgrade of its aged irrigation system together with Rain Bird. The upgrade included pump house, control system and greens, tees and surrounds irrigation*







*Since returning as superintendent last December, Glover has dramatically improved the consistency and quality of the Harden greens*

related to the funds available to develop and/or maintain it. These increasingly tight margins put extreme pressure on the club's ability to maintain its golfing product with only 87 golfing members. Plant and machinery is also a challenge and a major stumbling block to the continued improvement of the golf club.

The club, with new general manager Chris Longbottom on board, is in the process of improving its service to members and patrons through modern systems that allow the club to communicate and promote in a timely and professional manner. We are also trying to upgrade the machinery with the little resources the club has. Such challenges I do not believe are unique to Harden CC but are endemic within the club industry at this point in time.

#### **Outline any major course improvement works recently completed or coming up.**

The course has just undergone a \$495,000 upgrade of its aged irrigation system together

with Rain Bird. The upgrade was targeted at the pump house, control systems and greens, tees and surrounds areas of the golf course. The second stage will be the fairways at a cost of some \$400,000 which will not happen until funds are sourced.

This initial upgrade is just one step in a process so that Harden CC can realise its goal of being one of the best regional clubs in NSW. It involved installing a new mainline around the course, as well as installing new sprinklers around the tees and greens/approaches. This was also all done while trying to maintain the integrity of the old irrigation system, which is still in use periodically to water the fairways. These works have given the club the opportunity to improve the quality of its playing surfaces for members and visitors.

**Water is obviously a critical issue for any golf course. How is Harden CC faring in the water management stakes?** The longer the

summer goes on the harder it gets. We have to share the water with the council's parks and gardens facilities. We need to find another water source sooner rather than later for the course to fulfil its potential.

**The weather and climate is always a great leveller for a course superintendent. How has Mother Nature treated the course in recent times?** This area has been in drought for two years. Fortunately we have the effluent water, although as mentioned above it is a limited resource as we have to share with council.

**The one product I couldn't manage my course without is...** Wetting agent. In drought, trees surrounding greens and summer days continuously over 40 degrees means that wetting agents are so important for bentgrass survival.

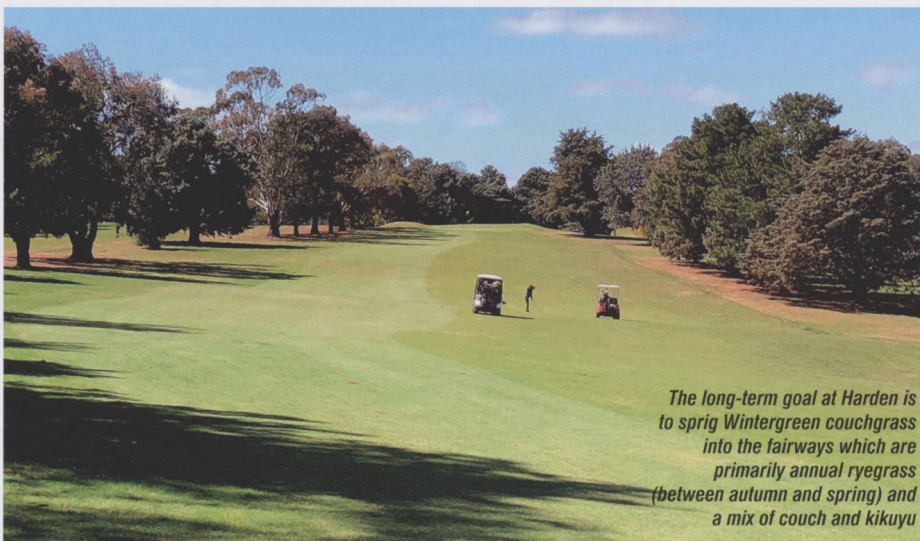
**What are some pros and cons of being a regional superintendent?** Limited budget and subsequently limited staff. Having more staff is the one thing I would change about the job.

**Are expectations of course presentation and conditioning any less than those placed on your metropolitan counterparts?** Our members don't expect what they get at a city course. However, they certainly have high expectations for one staff member for 18 holes.

**Do you use volunteers to assist with the management of the course?** We do have a few volunteers, however, they are getting on in years. They have been fantastic in recent times when trees/limbs have blown down. At the moment we have no structure for volunteers as they are not around on a day-to-day basis, although my wife Karen has been known to jump on the fairway mower to give me a hand. I would be over the moon if a couple of blokes could help out filling sand bins, cut some rough, mow around the clubhouse etc.

**How important are the relationships you have with other course supers/trade reps?** Very important, I speak regularly with superintendents and former supers that are trade reps. They are very accessible and great with their time.

**What are some of the more unusual requests/things you have had to do as a superintendent of a regional course?** I was once called upon to de-grease and pressure wash the bistro exhaust fan!



*The long-term goal at Harden is to sprig Wintergreen couchgrass into the fairways which are primarily annual ryegrass (between autumn and spring) and a mix of couch and kikuyu*



*Hitting greens in regulation at Harden is paramount as the average size is just 300m<sup>2</sup>*

**Do you think regional/country superintendents have a better work-life balance than their metro counterparts?**

As a country super I walk 200m to my work place and get to enjoy the tranquil country lifestyle, so I believe our work life is certainly balanced.

**What have you got in your shed and what's on the wish list?**

In the shed - Toro 3150 (greens), Toro 7200 (rough), Toro 4500 (second cut around greens, tee shoulders/rough), Toro Workman (spray unit, topdresser, tip tray). One Jacobson Greens King IV (greens collars and tees), Jacobson LF3407 (fairways), Kubota tractor. The Workman is my favourite piece of equipment because of its versatility. We are currently looking at getting a new greens and fairway mower. Our existing units have plenty of hours on them. On the wish list is a Toro Pro Core. That would give me the flexibility to core/solid tine greens/tees more regularly without relying on a contractor.

**Do you have any old pieces of equipment that you keep alive through necessity?**

We have a Jacobsen Greens King IV greens



mower that must be at least 20 years old. I use it to mow greens collars, tees, attach verticutters to and acts as a backup green's mower.

**Favourite spot on your course?** Besides the 19th, the 16th tee. This hole is a short par three hitting out of a narrow opening to a 220m<sup>2</sup> green overlooking Murrumburrah.

**Best advice you have received about being a course superintendent/greenkeeper and who gave it to you.**

Peter Lawson was our practical TAFE teacher and the super at Wagga Wagga Country Club. He said go out

early every morning and check every green and ask yourself, 'Has something changed since yesterday?' or 'Does everything look right?'. Observation is the best tool you've got as a superintendent and I still do this routine every morning.

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

Keeping all members happy has never been easy. Time management nowadays is always a challenge, especially keeping up to date with all the paperwork and computer work that is needed these days. After a day's work to sit and document everything you have done

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*Harden is hoping to secure another government grant to undertake further irrigation works on the fairways*

for the day and what your plans are for the next week can be frustrating at times. I do understand the need for this as we can give our board members an overview of what it is like to try and keep on top of things and what can sneak up on you.

**What have you worked on personally in recent years to improve your skills as a superintendent?** Definitely my IT skills, budgeting and reporting.

**What gives you the most job satisfaction?** Having visiting golfers comment on how true the greens are is definitely one of the most

satisfying things to hear. Hopefully in the future it will be how amazing the course is from a playing point of view and looks.

**Most pleasing/rewarding moment during your time as Harden CC superintendent?**

After a year back in the position it is fantastic to receive positive feedback from visiting golfers who say the course has never looked as good.

**You recently hosted the Australian 2-man Ambrose Championship – talk us through your preparations for that event and how the course came up.** The event was an amazing success and all those who played

in it were nothing but complimentary. During the week of the tournament I worked 60 hours to ensure the course was in prime condition. Karen even came in to cut fairways. Everyone gets involved when needed in the country.

**And finally, as you mention earlier you are a passionate golfer and have actually tasted quite a bit of success at Harden CC, including being crowned 2019 club champion.** Golf has always been a love of mine since growing up in a town nearby called Binalong. I learnt to play on sand greens and this has held me in good stead over the years. I have contested the Harden club championships 12 times and have won 10 of them. This year was by far my most memorable victory as going into the last round I was five shots behind. I managed to shoot even par to win by five.

Each year it gets tough as some handy golfers come out of the woodwork to play. I always go into them knowing that it's over 72 holes. I remember having a bogey on the very first hole one year and picked my ball up out of the hole and said, "Well, 71 holes to get that shot back". I pride myself on being a competitor but at the same time a good sport.

As far as setting the course up goes, I do occasionally get a ribbing. But I just say to guys, "I'll show you where the hole cutter is – one less job I'll have to do". That generally quietens them down! 🏌️

## AT A GLANCE – HARDEN COUNTRY CLUB, NSW

**Course specs:** 5657m par 71. 85 per cent bentgrass greens, 15 per cent *Poa/couch* greens. Annual ryegrass fairways in late autumn to early spring. There is a mixture of kikuyu/couch on the fairways although not full coverage.

**Members/rounds:** 87 golfing members/5500 rounds.

**Major tournaments/events held during the year:** The Australian 2-man Ambrose Championships in September over two days has been running for 29 years. This tournament generally attracts over 190 players each year. The Open tournament in June. A lot of golfers come from Sydney, North Ryde in particular, the south coast of NSW, Canberra and surrounding towns.

**Annual course budget:** \$15,000

**Staff structure:** At the moment I am the only staff member employed on the course, but am always happy to have any help that is on offer.

**Climate/annual rainfall:** Winter average 13

degrees, summer 34 degrees. Annual rainfall 600mm.

**Soil types:** Greens are sandy loam and fairways clay.

**Water sources/irrigation:** Treated effluent. Rain Bird IC controls greens, tees, approaches and 10th and 18th fairways. The old system can still operate fairways, although it needs a major overhaul. Hopefully we can get another grant from the NSW Government to do the fairways, as they generously gave us the grant for the first stage. I couldn't be happier with the Rain Bird IC system and the installation job Bray Water and Earthworks have done.

**Cutting heights/regimes:** Greens 3mm year-round. We generally cut greens four times a week. Fairways are mown at 15mm in winter and 20mm in summer. Regularity of cut is rainfall dependent. Tees and collars are cut at 9mm. Rough and surrounds at 2.5-3 inches depending on what time of year.

**Renovations:** We renovate twice annually in September and March. We use half-inch hollow tines to a depth of three inches, scarify and topdress. This summer I will be dusting and verti-cutting regularly.

**Major disease pressures:** Fortunately our climate doesn't favour a lot of disease. We generally don't have a lot of high humidity. Dollar spot and brown patch pop up occasionally. I make sure I put out a preventative for pythium this time of year (November/December) just to be on the safe side, because on my return last year that's what I was confronted with. Luckily, we escaped major injury with a curative application.

**Nutrition management:** I am conscious of the fact the effluent water has a detrimental effect. I use a lot of liquid calcium, with humic and fulvic acids plus acids to dissolve the bicarbonates. We also apply sulphur fertilisers to offset the effects of bicarbonates.





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## TORO PUTS THE 'E' INTO EFFICIENCY WITH GREENSMASTER eTRIFLEX 3360

**A**STMA Platinum Partner Toro Australia has launched its most advanced, electric-drive riding greensmower into Australia – the Greensmaster eTriFlex 3360.

The new eTriFlex carries no hydraulic fluid and utilises all-electric components for traction, steering, lift and cutting units. The new EnergySmart model delivers an operationally friendly design with noise reductions, operational cost savings and other improvements, complementing enhancements in cutting performance.

"Superintendents can rest easy knowing that all hydraulics have been replaced with electrical components," says Brian Goodridge, Toro's equipment product marketing manager. "There's no need to worry about potential hydraulic leaks that tend to happen at the most inconvenient times.

"The lower noise levels of the eTriFlex certainly help with early mowing starts and tee times, to help the course with local noise regulations. The new generator model is much quieter than traditional engine-powered models."

Cutting performance has also been improved, especially on the perimeter cut, by monitoring each individual reel and traction wheel speed during turns. Adds Goodridge: "This mower has individual

reel and wheel speed control, reducing the effect known as 'triplex ring'. The clip rate of each individual reel is standardised to avoid turfgrass thinning on the inside reel during perimeter cutting and wheel turf scrubbing is reduced."

The eTriFlex 3360 is powered by a Kawasaki engine/generator and built upon the

TriFlex platform. The engine-powered eTriFlex with battery assist technology is up to 20 per cent more

fuel efficient, resulting in lower emissions and fuel savings.

Other new features include an automatic slowdown in turns at high transport speeds, auto-brake functionality when the operator dismounts the mower, a foot-operated parking brake as well as an optional mowing slowdown setting to help protect the integrity of the collar.

Operators also have more control and access to advanced diagnostic information than before thanks to the onboard InfoCenter. This control panel can adjust mowing and reel speeds, calibrate lift, steering and traction and engage the 'slow-in-turn' feature to reduce damage on the fringe area of the green in turnarounds.

"Our electric-drive riding greensmower incorporates some very important and revolutionary new features," says Goodridge. "The result is a much quieter, easier-to-operate, labour-saving machine that delivers a best-in-class level of cut quality, consistency and playability."

The Greensmaster eTriFlex 3360 engine-powered model is now available and is compatible with existing TriFlex cutting units and accessories. Visit [www.toro.com](http://www.toro.com).

au or contact your local Toro rep for more information.



*The new non-hydraulic Toro Greensmaster eTriFlex 3360 greens mower boasts lower noise levels and an environmentally friendly design*



## HERITAGE SEEDS REBRANDS TO BECOME BARENBRUG



One of Australia's largest seed companies has undergone a major rebranding, with Heritage Seeds now known as Barenbrug. Coming into effect from 28 October 2019, the name change to Barenbrug will bring Heritage Seeds in line with parent company The Royal Barenbrug Group who part-owned Heritage Seeds from its inception in 1990 and have fully-owned it since 1996.

The Royal Barenbrug Group operates globally with headquarters in The Netherlands and is recognised as a leading worldwide creator of forage and turf solutions. It has 18 operating companies and 22 research and development locations, creating grasses for different purposes in all major climate zones.

Managing director Toby Brown says Barenbrug would provide the same service and products as Heritage Seeds, while embracing the 114 years' of experience of its parent company and enjoying the advantage of its global network. "Nothing changes but the name," says Brown, who joined Heritage Seeds as MD in July. "We have a strong history with Barenbrug and the fourth-generation family business is well-known globally, so it will be a great advantage to strengthen that connection to Australia."

The name change also coincides with the opening of a new \$15 million warehouse facility in Toowoomba, Queensland. Adds Brown: "Supporting growth into northern Australia forms an important part of our strategic direction. We believe there is a significant opportunity to increase engagement and support northern growers, so we've designed a new Toowoomba facility with capacity to expand as needed."

The existing Heritage Seeds company structure and staff has continued under the rebranding. The company employs 110 people with representation across the country and Brown says they will continue to invest in research and development to produce solutions for Australian conditions.

**For more information on Barenbrug, visit [barenbrug.com.au](http://barenbrug.com.au).**

## BAROLYMPIC GOES FOR GOLD

Barenbrug will shortly introduce its new ultrafine perennial ryegrass Barolympic into the Australian market. The mid-



*Barolympic ultrafine perennial ryegrass can maintain excellent density under high wear and can be mown down as low as 5mm for golf situations*

light green colour variety is well suited to tough Australian conditions, showing excellent establishment, density and winter recoverability in independent trials.

While autumn 2020 will see the first widespread commercial use of Barolympic in Australia, local trials have already reinforced the quality breeding and research which has taken place globally, including the UK where it has been the top performer in sports trials. The

variety has also been trialled successfully at a major soccer venue in Melbourne in a blend with Premier 3.

Barenbrug turf portfolio manager Matt Merrick says Barolympic sets a new standard for fine turf that can maintain excellent density under high wear and can be mown down to 5mm for golf situations. It has also performed well in independent trials conducted in Victoria by John Neylan and in Queensland by Matt Roche from Australian Sports Turf Consultants.

"In the southern trial, Barolympic was the best variety for germination and seedling vigour, and statistically the best variety for winter growth and density," says Merrick. "In the Queensland trial, Barolympic was the best performer in early germination and density where relative humidity levels were 81.4 per cent. It was then rated the best overall performer in terms of quality at the completion of the 18-week trial."

Barolympic will be supplied into the Australian market in a mix with Premier 3, a combination which was the top performer in the northern trial in terms of percentage ryegrass coverage winter sown into Wintergreen couchgrass.

"We wanted to trial Barolympic in both the north and south, just to look at early establishment in heat, overall coverage and performance over winter," explains Merrick. "A lot of sports fields start the oversowing process quite early in preparation for the start of football in winter. It performed admirably in both regions, which means that it can be used anywhere in Australia with confidence."



*Kodi Beckett*



*Tim Gammage*

## BECKETT, GAMMAGE JOIN JD

ASTMA Silver Partner John Deere recently announced two significant appointments, with **Kodi Beckett** and **Tim Gammage** taking on key account manager roles with the company. With over 20 years' experience, Beckett started his career as a greenkeeper managing and maintaining some of the best golf courses in Australia. Gammage has 29 years' experience working with John Deere dealer groups throughout the UK, NZ and Canada and is passionate about the brand. "Significant investment in research and development and continuous technology adaptation keeps John Deere ahead of other manufacturers," says Beckett.



According to Merrick, Barolympic shows very fast recovery and growth rates, enabling quick germination, establishment and mid-season repair in areas of high traffic. It does this while maintaining turf density, which is essential for wear tolerance throughout winter and recoverability.

**To find out more about Barolympic ultrafine perennial ryegrass, visit [barenbrug.com.au](http://barenbrug.com.au).**

## E-PAR GETS DIRTY WITH NEW EHS RISK INITIATIVE

**E**nvironmental health and safety provider e-par has launched a unique campaign aimed at helping superintendents and turf managers better manage their EHS risks.

Titled the 'EHS Dirty Dozen', according to e-par managing director Terry Muir the campaign aims to highlight the 12 most significant environment and safety risks that are keeping superintendents and turf managers awake at night.

The Dirty Dozen campaign is a real time risk management initiative to reduce stress and liability and improve EHS governance. Starting in January 2020, e-par will use its Connect 2.0 EHS app to address one of the 'Dirty Dozen' every month and are actively encouraging customers to tell them their most pressing EHS issues for inclusion on the list.

These could range from workplace bullying and harassment, manual handling or working on steep slopes, through to chemical handling and mixing, spill management or use of PPE.

Each month e-par will provide the documentation turf managers need and other protocols to manage that specific risk and create a 'live' Risk Register in the Connect 2.0 system to demonstrate that they are managing that risk at their facility.

"We're pretty excited about this as it's a world-first, 12-month initiative that targets exactly what it is that is stressing superintendents," says Muir. "It's a strategy to rest the stress of many supers by putting to bed the top 12 things from an EHS risk and compliance perspective that troubles them the most."

**To be involved in the 'EHS Dirty Dozen' campaign, contact e-par on (02) 4917 3166 or email [info@epar.com.au](mailto:info@epar.com.au).**



## TURF CULTURE PRODUCT UPDATES

**A**STMA Bronze Partner Turf Culture recently announced some updates and changes to its Monarch insecticide and Waldo miticide products.

The Victoria-based company has released Monarch 100 Insecticide (a.i. 100g/L fipronil) into the Australian market which replaces the original Monarch Insecticide product (a.i. 125g/L fipronil). The major difference between the old and the new is the scheduling. The original Monarch Insecticide was an S6 Poison, whereas the newly launched Monarch 100 Insecticide is an S5 Caution. Monarch 100 Insecticide is registered for the control of Argentine stem weevil, funnel ant and mole crickets in recreational, domestic and commercial turf.

"The new Monarch 100 rates apply the same amount of active constituent per hectare as the previous Monarch product," says Turf Culture's Warren Braybon. "So while there is a rate change, that is only to allow for the change in strength as the same amount of active per hectare is applied per pest."

The APVMA also recently granted Turf Culture a re-entry period change for Waldo miticide (a.i. 500 g/L diafenthiuron) which removes many previous restrictions placed on turf managers post-treatment. Previously the re-entry period was;

- General public: Do not allow entry access to treated areas until spray has dried.
- Grounds staff/professional operators:
  - Low exposure activities – do not undertake low exposure occupational re-entry activities such as irrigation and mowing on treated turf until the spray has dried;
  - High exposure activities – do not undertake high exposure occupational re-entry activities such as hand-weeding or transplanting of turf until 15 days after application, unless wearing cotton overalls buttoned to the neck and wrists (or equivalent clothing) and elbow length chemical resistant gloves.

The updated and now applicable re-entry period is: Do not enter treated areas until the spray has dried unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length chemical resistant gloves. Clothing must be laundered after each day's use.

**New product labels and MSDS sheets for both Monarch 100 Insecticide and Waldo miticide can be viewed or downloaded at [www.turfculture.com.au](http://www.turfculture.com.au).**

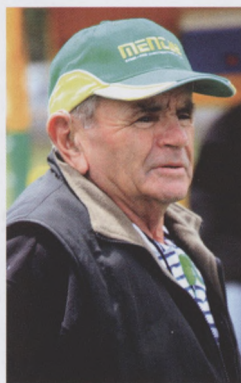


## VALE MAURIE MENCHENNET – MENTAY FOUNDER

**A**ustralian Turfgrass Management Journal passes on its sincere condolences to the Menhennet family following the death of father Maurie (pictured) on Saturday 9 November. He was 79. Founder of Mentay Steel Fab Construction, which manufactures Mentay cricket pitch rollers, William Maurice 'Maurie' Menhennet was farewelled by a large gathering of family and friends at his funeral service in Ballarat on 18 November.

Ironically, Menhennet never played the game of cricket but can lay claim to manufacturing one of the most popular and integral items of plant required in the preparation of modern-day wickets. According to the Mentay website, it all came about from a challenge that Menhennet issued to then Ballarat Cricket Association president Rex Holloake, who

in 1973 had purchased a new cricket pitch roller from Melbourne. At the time, Mentay was in the business of repairing many types of rollers, some of which were poorly designed, and Menhennet told Holloake that he could build a far superior machine for the job.



The Mentay Hydra-Glide walk-behind cricket pitch roller was the end result and in 1980 it would go on to win an Australian Design Council Award. Since then, Mentay's signature green and yellow pedestrian and ride-on cricket pitch rollers have become commonplace at many cricket grounds across the country, among them the Melbourne Cricket Ground, the Gabba and Bellerive. Mentay rollers have also found their way to New Zealand, the Hong Kong Cricket Club and as far away as the United Arab Emirates and South Africa.



## BARONESS LM551 TEES OFF ON FAIRWAYS

**A**STMA Silver Partner Kubota has launched the new Baroness LM551 five-gang fairway mower in Australia.

Built for elite golf courses, the Baroness LM551 has been ergonomically designed with custom cutting unit options to ensure perfectly manicured fairways. Trent Saunders, Kubota's golf and turf equipment sales executive, is excited to bring the Baroness LM551 to the Australian market.

"The LM551's unmatched quality of cut and performance fills a gap in the market for elite golf courses," says Saunders. "The forward and backward slide rear cutting function allows the unit to closely follow all undulations and contours, creating optimum playing conditions."

The LM551 joins the LM2400 lightweight fairway mower and LM2700 mid-weight fairway mower in Baroness's golfing product range. Two options of cutting units are available to match with each golf course's requirements – the LH52 unit (which has a 127mm diameter reel) or the LH62 unit (with a 163mm diameter reel).

Further customisations are available with each cutting unit having the option of seven- or nine-blade reels and the ability to be fitted with a groomer, power brush, front roller scraper and newly designed grass boxes.

The LM551 is powered by a Kubota V1505-T diesel four-cylinder engine (44.2hp). A cut width of 254cm enables the LM551 to cover a greater surface area to further increase efficiency. A tight turning radius for cutting at 180cm means no corner is left untouched and a comfortable and ergonomic operating area ensures a smooth and responsive ride for the user.

"A mowing height of 6-20mm in the LH52 cutting unit and 8-45mm in the LH62 cutting unit allows the LM551 to be adaptable for all premium playing surfaces," says Saunders. "The LM551's industry-leading range of motion is a key component to achieving perfectly manicured fairways."



*The new Baroness LM551 five-gang mower has been ergonomically designed with custom cutting unit options*

**The Baroness LM551 is now available. Contact Trent Saunders on 0437 814 392 or your nearest specialised turf dealer to arrange a demonstration.**

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*Pambula Merimbula Golf Club superintendent and new NSWGCSA board member Pat Wilson (left, pictured with association president Nathan Bradbury) won the NSWGCSA Outstanding Achievement Award at the recent NSW Golf Industry Awards*

The NSWGCSA held its Annual General Meeting and Rube Walkerden Trophy event on Monday 18 November at the recently rebuilt Concord Golf Club. Credit goes to superintendent **Chris Howe** for presenting a very challenging golf course in some pretty dry conditions. This year saw 116 players take the challenge with only a very small amount coming out on top.

**Brendon Warby** (Narooma GC) was the Rube Walkerden Trophy winner with a score of 37 points, while **Lee Sutherland** (St Michael's GC) won the Peter Ingram Trophy for best scratch score. **Matt Kennedy** (Living Turf) won the Patron Shield for best trade score of 41 points. NTPs went to **Dominic Yates**, **Chris Boggs**, **David Thomson** and **Brendan Warby**. Longest drive went to **Peter Blain**. Thank you to all that attended.

Stepping down from the board of directors during the year was **Rod Hinwood** (Ellerston GC) and **Russell Fletcher** (formerly St Michael's GC). Part of the NSWGCSA plan was to branch out into the Far South Coast and North Coast regions of the state and in doing so **Pat Wilson** (Pambula-Merimbula GC) and **Mark Spraggs** (Forster Tuncurry GC) have been elected to the board. 2020 will see education days being held in both those regions of the state to support our members. The board is excited to welcome both Pat and Mark and look forward to working closely with them to help support their regions.

In October the NSWGCSA joined with all other golfing bodies in the state as part of the NSW Golf Industry Awards at Curzon Hall. The association handed out four awards on the night;

- **Outstanding Achievement Award (sponsored by Living Turf):** Pat Wilson (Pambula Merimbula GC)
- **Superintendent of the Year (sponsored by Australian Turf Projects):** Anthony Mills (The Lakes GC)
- **Outstanding Performance and Dedication Award (sponsored by WaterWise):** Brendan Brown (Northbridge Golf Club)
- **Graduate of the Year (sponsored by JT Turf):** Angus Beasley (Gunnedah GC)

For their efforts, both Pat and Anthony win a trip to an international turf conference, while Brendan will be attending the ASTMA's Sports Turf Management and Golf Business Conference & Trade Exhibition in Melbourne. Angus will also be heading to Melbourne where he will represent the NSWGCSA in the final of the ASTMA's Graduate of the Year Award. But before that, he will head to Singapore where he will be a volunteer at Sentosa Golf Club for its major tournament in January. Congratulations to all award winners.

The serious issue of water restrictions is ever-growing across the state, with some areas already on Level 3 or higher – and summer hasn't begun yet! **David**



*Anthony Mills (The Lakes GC) was named NSWGCSA Superintendent of the Year*



*Lee Sutherland (St Michael's GC) posted the best scratch score at the Rube Walkerden Trophy day to win the Peter Ingram Trophy*

**Somerville** (NSWGCSA vice-president) and I met with Sydney Water representatives and representatives from the NSW Bowling Greenkeepers Association, STA NSW and GolfNSW to discuss a plan moving forward for the exemptions of use.

As it stands, NSWGCSA has enlisted the services of a water consultant to start drafting a document to present to Sydney Water and the Minister that will outline the demand our membership require of potable water. The NSWGCSA will also be corresponding with GMA, Bowls NSW, GolfNSW, ASTMA and STA, plus all the other relevant water authorities across the state to try and assist in the management of exemptions and use of water.

Information will be sent to the membership as the board receive it and all we ask is the support of members when required with survey information. This will help build this document to be informative and precise.

At the time of writing the 2019 Emirates Australian Open was just 10 days away, so on behalf of the NSWGCSA I would like to congratulate **Phil Beal** and his staff at The Australian Golf Club on their efforts. Knowing Phil, I know he will probably think the course is underdone, but I can assure you everyone else will be thinking it's phenomenal.

**NATHAN BRADBURY**  
PRESIDENT, NSWGCSA





FMG Stadium in Hamilton is currently being resurfaced. Turf from the existing surface has been recycled and used at other sports venues around the city



PHOTOS: PETER DRURY, COURTESY OF HAMILTON CITY COUNCIL/H3

As we roll into a busy summer season, there have been a few projects of significance already getting underway in New Zealand. Not least has been the resurfacing of the Waikato Stadium in Hamilton (FMG Stadium).

Waikato Stadium has historically provided one of the best cool-season turf surfaces in New Zealand and hosts a wide range of national and internationally significant sports events. The Hamilton City Council owns and manages this facility and wanted to invest in a hybrid turf system due to the increasing multi-functional use and demand of this facility. Recently, events such as motocross, firework displays and community festivals/concerts have all been staged at the stadium. The challenge has been to ensure the surface is 'good to go' for the hosting of the HSBC Sevens Tournament which is held every January at the stadium.

Over the first two weeks of November, the surface was removed and the top 100mm or so of sand material above the pre-existing 'MOTZ' layer taken off site for future re-use on the city's sports parks. The 'MOTZ' was also shredded and removed. A new sand layer, irrigation system and artificial turf ring road was installed. The turf surface will be grown in by **Karl Johnson** and his team, with 'Desso Grassmaster' stitched into the ryegrass surface prior to Christmas.

In addition to all of the renovation and preparation work being carried out up and down the land this spring, arrangements are well underway for the staging of the inaugural 'Whole of Golf' industry show and conference. This is a unique event that will bring together the entire golf course management sector under one roof.

Course superintendents are being encouraged to attend with their managers

and trainees in an effort to collectively develop educational and networking opportunities for the golf course sector in NZ. The event is being organised by **Des Topp**, chairman of the New Zealand Golf Industry Council, and will be staged at Ellerslie Racecourse (Auckland) from 3-5 August 2020.

The forecast for much of NZ this summer is to experience a slightly hotter and drier summer than 'normal' – although I think we could be forgiven for forgetting what 'normal' even is! There are a huge number of events being stage on sporting surfaces across NZ this summer. It kicked off with the Test Series between the Black Caps and England, which was staged at the magnificent Bay Oval (Tauranga) and Seddon Park (Hamilton) in the last two weeks of November.

**WILL BOWDEN  
COMMITTEE, STANZ**

## A POETIC APOLOGY...

Australian Turfgrass Management Journal prides itself on providing a vehicle through which the state superintendent and sports turf associations and allied organisations can update the wider industry on their activities.

Spring and summer are notoriously busy for turf managers everywhere and for those tasked with the responsibility of providing a report, sometimes editorial deadlines can fall at the wrong time, in this case mid-November.

While many will fire off a quick missive informing the editor they won't be contributing, NZGCSA president **Steve Hodson**, superintendent at Westown Golf Club in the mighty Taranaki region, took a bit of poetic license when passing on his apologies for this edition which we felt worthy of some column inches. Martyn Black and Peter McMaugh... you have a rival!

*The days are long as is the grass  
I'm spending much of my day sitting on my arse  
Musical chairs as I go from this mower to that one  
All day it seems from the rise of the sun.*

*I had good hope of putting pen onto paper  
With news from NZ for the bi-monthly caper  
But alas when it seems the moment is right  
Something else arises to put it from sight.*

*So I'm sorry Brett, me ole mate  
There will be no article this time, not even late  
It seems we need more hours built into the day  
Spring seems all work and a complete lack of play.*

*So it is a must to do, my next contribution  
Which is likely to be early 2020 distribution  
By then we hope some norm has returned  
And the brain running clearly rather than churned.*

*In the meantime I wish you well for the festive season  
Where eating and drinking is an impulse without reason  
A time to relax, rest and recharge the body  
It's good night from me, the old grey bugger 'Hoddy'.*



# VGCSA

**A**s I write this, it's hot and gusty winds are buffeting Melbourne. For most of us in the metropolitan bubble or its fringes, this spring has so far been kind. For those further afield in Victoria though, there has been a severe lack of precipitation. Meanwhile, our condolences go to those in eastern Australia who have experienced the devastation of bush fires – a catastrophe far too early in the season. I really hope that this summer is not a repeat of the last.

This summer season seems to be attracting a large amount of international seasonal staff with many course managers left with no option but to fill staff vacancies with seasonal or unqualified staff. Over the past few years, it has become very clear that qualified staff are becoming scarce.

It's not uncommon to hear of course managers having zero response to job ads posted on the national website. Alternatively, those lucky enough to receive any applicants find that they are not up to the level of desired expertise.

The lack of attraction to our industry is a concern, as too the removal of greenkeeping from the Australian skills shortage migrant list. While a two-year working visa may be applied for, there are international qualified staff who would jump at the opportunity to remain in our country, yet the opportunity to sponsor permanent residency is no longer available. Hopefully, we will make some headway with state and federal governments regarding this matter.

## STA VIC

**S**TA Victoria is pleased to announce its new partnership for the 2019/2020 cricket season with Cricket Victoria. The funding provided is for 12 months and is sourced through Cricket Victoria's Cricket World Cup 2020 Legacy partnership with the Victorian Government.

Throughout the next 12 months STA Victoria and Cricket Victoria will be developing programmes for their regular seminars that encourage and promote women in turf management and the Cricket World Cup. Our encouragement of 'women in turf' continues to grow and 2020 will see that embraced. STA Victoria thanks Cricket Victoria and the Victorian Government for their support.

The next STA event will be the annual Regional Seminar to be held at Mars Stadium,



*The winning and runners-up teams from the VGCSA's Annual Golf Day held at The Dunes*

Turf consultant **John Neylan** has now collated data from our most recent research trials conducted in winter. The full report will be available to VGCSA members in 2020. A massive thanks to all the clubs involved for the use of their course and facilities.

The second to last week of November saw our final event for the year with the VGCSA Annual Open Golf Day. A big thanks to Oasis Turf and The Dunes Golf Links (superintendent **Simon Muller**) for their support. It was a fantastic course and, unlike today, perfect weather for golf with colleagues. It is always a tricky time of year to host such an event, with many undertaking renovations or the spring season workload ramping up quickly. I would like to thank everyone who attended and for their continued support of the association.

The winning team comprised yours truly along with **Scott Fullerton** (Woodlands

GC) and Commonwealth Golf Club's **Caleb Johnson** and **Ben Williams**. Runners-up were **James Hewitt** and **Mathew Roach** (both Cranbourne GC), **Brendan Dooley** (Peppers The Sands Torquay) and **Matt Scott** (Advanced Seed). Nearest the pins went to **Lachlan Vassallo** (Northern GC) and **Kent Taylor** (Anglesea GC), while Scott Fullerton clubbed the longest drive on the 18th.

Our first education meeting of 2020 will be in early March which is shaping up to be a cracker! We will be catching up with superintendents **Steven Newell**, **Nicholas Staff** and **Richard Forsyth** as they take us on a tour of the course works at Victoria Golf Club and Sandringham Golf Links. I wish everyone a safe and pleasant summer season.

**BARRY PROCTOR**  
PRESIDENT, VGCSA

Ballarat on Tuesday 21 April. A programme is currently being developed that will achieve all these objectives and will be both entertaining and informative for all who attend.

If you have any suggestions/requests for topics or speakers for this seminar, or any other events, please contact **Jan Fenton** [vic@sportsturf.asn.au](mailto:vic@sportsturf.asn.au). We also welcome suggestions for topics for research projects to be undertaken and funded by STA Victoria in the coming year.

The STA Victoria committee wishes you all a safe and happy festive season and we look forward to sharing information and news and providing support to the turf industry again in 2020.

**COMMITTEE, STA VICTORIA**



*A new partnership between STA Victoria and Cricket Victoria will over the next 12 months aim to encourage and promote women in turf management*



It has been a hot start to the season here in Perth with a couple of 40-degree days already by mid-November. The strong easterly winds we get overnight and throughout the morning have also started. These winds can really affect irrigation and dry out the course pretty quickly. We don't usually get summer rains, so anything we get from now until around March is a bonus.

We want to thank **Mark Unwin** and the Australian Sports Turf Managers Association team for professional development seminars they have started running around the country. I recently attended the Microsoft Excel workshop at the Western Australian Golf Club and all the guys got a lot out of it. We look forward to the next workshop.

At the same time, we were overlooking superintendent **Idris Evans** and his team reconstructing the 9th green – their fourth green in four weeks and the last of the greens on the course. It has been a busy four years for them replacing all the greens with just the practice greens to finish off next year.

The Waterwise Program is starting to really amp up with a meeting planned for late November. It is part of the ongoing plan to get every course 'waterwise' with the help and guidance from **John Forrest** and the Department of Water. One course locally in Perth has already had their water allocation reduced, forcing them to look for other water sources and turn off some areas on the course. We hope to also have meetings with the GMA soon at one of their get-togethers.

I travelled up to Kalgoorlie in mid-October to help out **Pat Casey** and his staff for the WA PGA Championship. A week of heat in the high 30s didn't affect the guys too much with the course looking magnificent. The following week **Simon Bourne** hosted the WA Open at



*Kalgoorlie (above) and Cottesloe (left) hosted major tournaments in October to great acclaim*

and superintendents hosting tournaments. I've enjoyed the diary entries from **Mat Soles** and **Phil Beal** (The Australian GC) and also **Craig Anthony** and **Richard Forsyth** (Royal Melbourne GC) on their respective build ups.

**SHANE BAKER**  
SECRETARY, GCSAWA

## ON THE MOVE...

**JAMES COCKER:** From second assistant Metropolitan Golf Club, Vic to assistant superintendent Woodlands Golf Club, Vic.

**TONY SMITH:** From superintendent Launceston Golf Club, Tas to superintendent Mowbray Golf Club, Tas replacing James Pyke.

**SEAN STUCHBERY:** Departed as superintendent Bundaberg Golf Club, Qld after 11 years to take on a role with SunWater as operator/maintainer of water channels between Bundaberg and Gin Gin.

**MATTHEW TURNER:** From Terrey Hills Country Club, NSW to assistant superintendent Cumberland CGC, NSW.

Cottesloe. There was no rest for them as the very next morning they started on the irrigation install and construction of four new greens. Royal Fremantle and Lakelands are also continuing with greens construction projects.

The GCSAWA wishes everyone a safe and merry Christmas. Hopefully there are some breaks in the weather where you can relax a little and hopefully get a couple days off. We also wish all the best to those courses



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# TSTMA

Although not quite official, the Tasmanian Sports Turf Managers Association (formerly TGCSA) held an educational and environmental seminar at Invermay Bowls Club in Launceston. This Syngenta-sponsored event was very well supported with 35 attendees from all over the state representing all areas of sports turf management.

**Tim Bilston** (Syngenta) opened up proceedings with a very informative session on environmental stewardship as well as Argentine stem weevil management. **Kate Torgerson** (Environmental Golf Solutions) then threw a whole different light into management of green space areas, whether that be council, a golf course, parkland areas or even schools for that matter into reducing mowing while also complementing areas with indigenous native plantings.

**Mathew Jackson**, greenkeeper at Invermay Bowls Club as well as course superintendent of Longford Golf Club, then gave a short presentation on his role juggling the two turf facilities and the challenges he is presented with.

A short trip in a car pool road train had us at Dilston to the turf farm that **Bryan Dunn** (UTAS Stadium) has been developing over



*UTAS Stadium curator Bryan Dunn shows seminar attendees the new turf pad prior to it being harvested as part of the stadium's resurfacing project*

the last 12 for the stadium development which at the time of writing was nearing completion. Bryan explained the process of the profile construction and the stabilising of the turf and how it will all play out to produce a world class sporting facility which will future proof the venue for the next 20 years.

We were also very privileged to have ASTMA CEO **Mark Unwin** attend our seminar and deliver a very focused direction on the

future of the turf industry and the challenges we may meet along the way.

Robin from Air Inject also gave us a demonstration of the benefits of using the Air2G2 machine which was very interesting for those requiring some aeration without turf disruption. The day concluded with a very informative account of the construction process at UTAS Stadium delivered by Bryan Dunn and Hazell Bros construction.

Finally, there has been a bit of industry movement across the Apple Isle, especially up north. **James Pyke** (Mowbray Golf Club) has resigned and left the industry which has opened up the opportunity for Launceston Golf Club superintendent **Tony Smith** to slip back into his old role that he held prior to going to Launceston. Mowbray holds a special place in Tony's heart as it was there that his career started as an apprentice. **Sam O'Keefe** (Riverside Golf Club) has resigned and left the industry as has **Isaac Jones** (Ulverston Golf Club). This may well open up some opportunities for our next crop of budding turf practitioners.

**PHIL HILL**  
PRESIDENT, TSTMA

# SAGCSA

It has been an interesting year in South Australia with some normal weather in the cooler months. As this report is being written, however, we are staring down what will no doubt be another long, dry summer with rain looking increasingly hard to come by.

The SAGCSA and the STA SA had a joint education day back in late July. The event was well attended with around 145 delegates from both associations. This was a great opportunity for the two bodies to come together and work on the one event and hopefully will be the start of greater collaboration moving forward.

The SAGCSA was honoured to recognise two of its outstanding achievers at the recent South Australia Golf Industry Awards. The SAGCSA handed out two awards as part of the night, with The Grange Golf Club's **Rowan Daymond** winning the SAGCSA Excellence in Turf Management Award and **Thomas Burridge** (formerly Kooyonga Golf Club) collecting the Graduate of the Year Award.

Rowan first started working at The Grange in 2009, rising through the ranks under the expert guidance of Richard James, and taking up the position of course superintendent in



*SAGCSA Excellence in Turf Management Award winner Rowan Daymond (right) with association president Nathan Bennett*

October 2017. In February 2019, The Grange hosted the Australian Women's Open, a co-sanctioned event with the US based LPGA tour.

2018 was a dry year with only 220mm of rain. From December 2018 until the tournament in February 2019, only 2mm of rain fell. In response to the challenging climatic conditions, Rowan and his team modified turf nutrition and irrigation practices to ensure that the West Course was in prime condition for the main event, whilst also preparing the East Course in tournament condition for the qualifying rounds.

Rowan's work ethic, organisational skills, turf management knowledge and leadership have been instrumental in the outstanding year-round presentation of the golf courses at The Grange and the hugely successful staging of the 2019 Women's Australian Open.

Thomas Burridge has had a big year and the state acknowledgement came after he had earlier this year become the first SA representative to win ASTMA Graduate of the Year Award. Thomas learnt his craft under the expert guidance of **Steven Newell** and **Richard James** at Kooyonga Golf Club, and during his time there was involved in the preparations for the 2018 Women's Australian Open, having volunteered at Royal Adelaide in 2017.

Thomas's thirst for improvement and knowledge has seen him move to Melbourne where he is now part of the crew at Peninsula Kingswood Country Golf Club, following in the footsteps of his older brother Jacob who made a similar move a few years back.

**NATHAN BENNETT**  
PRESIDENT, SAGCSA



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