

# Turfgrass

VOLUME 23.5 SEPT/OCT 2021

MANAGEMENT JOURNAL

## Best out West

Optus Stadium at its optimum for history-making AFL Grand Final



## Rescuing Dunedoo

Industry rallies to restore vandalised course



## The chosen ones

FTMI Class of 2021



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FLAMIE\_SYNG6454\_18/21

Published by the Australian Sports  
Turf Managers Association (ASTMA)

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**COVER STORY  
OPTIMAL OPTUS**

8

In 2020 it was The Gabba in Brisbane, in 2021 it was Optus Stadium in Perth. For the first time in its short history, the West's spectacular new sporting arena played host to the AFL Grand Final after yet another Premiership season was impacted significantly by the COVID-19 pandemic. Optus Stadium, led by head curator Tony Hemming and his team, played a pivotal role in ensuring the 2021 Premiership season not only finished as planned, but also provided a glorious stage for the Melbourne Football Club to end an agonising 57-year title drought.

**Cover and inset:** Optus Stadium, 2021 AFL Grand Final, Melbourne v Western Bulldogs  
**Main Photo:** Michael Willson/AFL Photos/Getty Images. **Inset:** Tony Hemming



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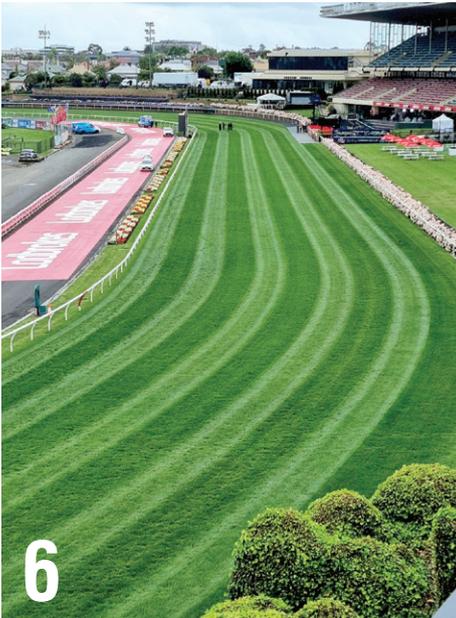
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**Journal Volume 23.5 (September-October 2021):** Adobe Stock Images; Shane Baker (CSTM, GCSAWA); Tim Bayard (Evergreen Turf); Martyn Black (Golf NSW); Nathan Bradbury (CSTM, NSWGCSA); James Correll (STA ACT); Elliott Dowling (USGA Green Section); John Forrest (Forrest and Forrest Horticultural Consultancy Services); Getty Images; Ben Gibson (The Toolbox Team); Shane Greenhill (VGCSA); Tony Hemming (HG Turf Group/Optus Stadium); Bruce Macphee (ASTMA); Paul McLean (CSTM, GCSAQ); Peter McMaugh AM (Turfgrass Scientific Services); Terry Muir (epar); James Newell (Magenta Shores); John Neylan (SportEng); STA Victoria; Kate Torgersen (Environmental Golf Solutions); Mark Unwin (ASTMA); Jenny Zadro (Turf Australia).

# The other side

I'm usually not one for drinking in the mornings, but at 9am on Wednesday 3 November I was almost compelled to. With Melbourne's sixth lockdown finally at an end, both kids were back in school uniform and off to school... freedom comes in different forms for everyone!!

As we slowly start to emerge from the COVID malaise of the past 20-odd months, it is amazing to reflect on just how our lives have had to change and the liberties we once took for granted. For the professional sports turf management industry it has presented multiple challenges across all areas of operations, but true to form it has tackled these head on and shown remarkable resilience.

While in the midst of Lockdown 6.0 here in the COVID capital of Australia, Kew Golf Club superintendent Cameron Hall dropped me a line proffering some thoughts on the whole saga for a potential article. In it he discussed the difficulties of navigating through the pandemic and the level of worry and anxiety it created for him both at home and at work. The big thing for Hall, as the pandemic wore on, was the dawning realisation of ensuring that his staff were adequately looked after from a mental health perspective. To his and the club's credit they instituted a number of measures to make sure the team had the support and help they needed through these unprecedented times.

In our next edition we will look at how superintendents and turf managers have contended with some of these demanding aspects, but here is a snippet from Hall's article which encapsulates not only some of the many considerations superintendents have had to grapple with, but also a timely reminder to take stock and reflect on what we have accomplished. Hall writes...

*"Early on in my career, I remember one of my bosses in the UK telling me that growing grass was the easy part of the job and that staff management and club politics were the difficult aspects. After nearly 20 months of this pandemic I don't think these words have ever been truer.*

*"Personally there were times where I struggled with different aspects of what was occurring. The thought of having to make decisions that would affect the lives and livelihoods of my staff weighed very heavily on me early on. There was also the feeling of guilt of going to work each day, leaving a wife at home who was trying to complete a university degree whilst home-schooling a nine- and seven-year-old. It was something I struggled with throughout as you could see the stress and anxiety building as each lockdown went on.*

*"The last 20 months have been an immense drain on everyone, but hopefully as we now reach the end of it, we can look back on what we have achieved and how we have helped each other though it and got to the other side."*

Speaking of help, I would like to finish up by saying a very big thank you to all those in the industry who have reached out to me in recent months while I was on extended leave. For those not aware, sadly my ex-wife Katherine lost her five-year battle with breast cancer in September. For myself and our two children Kristian (15) and Elizabeth (11), it has been a rollercoaster of emotions and will continue to be so for some time as we adjust to a new normal. However, I have been truly humbled by the outpouring of support towards us and it just shows what wonderful people the turf industry boasts among its ranks. Thank you all.

In addition to my colleagues at the ASTMA, who stepped in and filled the void amazingly in my absence, I also must say a very big thank you to the Australian Golf Media Association of which I am a member. As soon as I put out the call for assistance with this and the previous edition of ATM, my contemporaries were quick to rally. Special mentions in particular go to Australian Golf Digest associate editor Steve Keipert who edited the last edition with aplomb, while his Digest colleague, senior writer Rohan Clarke, has been of huge assistance sub-editing and proofing the majority of this edition. I can't thank you enough gentlemen – you have well and truly passed your turf apprenticeships. Enjoy the read...



**Brett Robinson, Editor**



# Nine million reasons for golf industry to be optimistic

It is with a sense of eagerness that much of Australia looks to re-open towards the end of 2021. As lockdowns and restrictions ease, the opening of borders would bring an opportunity for families, friends and colleagues to reunite. For those who have lived through almost 18 months of lockdowns, the weeks ahead bring a mixture of relief, enthusiasm and trepidation.

Lockdowns have certainly brought many challenges, though there have been a number of silver linings along the way. The resurgence of golf as a recreational pastime is one of these silver linings. The Australian Golf Industry Council (AGIC) recently released an in-depth report into research undertaken about the state of golf in Australia. The report highlighted phenomenal growth in playing activity during COVID-19 and golf is well positioned to take advantage of the opportunities the coming year brings.

The AGIC research showed that golf is considered fun, accessible, a game for life, and good for mental and physical health – as shown by the increase in rounds played over the past 18 months, primarily due to the outdoor setting and socially distanced environment.

Overall, an estimated nine million Australians are 'interested' in golf – of which less than 5% are members. That statistic alone provides a tremendous opportunity for the future. The report also provided an insight that young people are a growth market. An estimated 1,140,000 children are interested in playing alternative forms of golf – which is second only to swimming among organised sports.

Available on the Association website, the report is a highly recommended read for those wanting to assess the current and



Australian Sports Turf Managers Association

future direction of golf. The findings of the independent report are being used in the development of Golf Australia's forthcoming National Golf Strategy (to be launched in December).

## CHOSEN ONES

Closer to home, the Association has announced the Future Turf Managers' Initiative (FTMI) class of 2021. The program continues to be a popular education offering for the turf industry with a record number of applications. This year, due to various travel restrictions, the FTMI will introduce a series of facilitated,

talented group of turf managers to enhance their professional development and progress their careers as future leaders in the sports turf management industry.

## MEMBERSHIP ON THE RISE

For the team at the Association, it has been a difficult year adjusting to extended periods of working remotely and adapting short-term priorities. A pleasing result, however, has been the performance of the team in delivering on the objectives outlined in the Association's long-term 2019-2023 Strategic Plan.

The highest priority of the plan was for the Association to deliver a sustained increase of memberships for both the National Association and State Association partners. Pleasingly, we have seen continued growth in memberships over the past 12-18 months. It continues the previous trend where the Association has almost doubled memberships in the past four years. In particular, we have seen substantial growth for each of the State Associations in both memberships and trade memberships.

Meanwhile, a series of long-term initiatives have launched, such as the ASTMA

*“An estimated 1,140,000 children are interested in playing alternative forms of golf – which is second only to swimming among organised sports.” - Mark Unwin*

online education seminars for participants over the course of five months. It will culminate with intensive two-day, in-person workshops in Melbourne during March 2022.

Further details of the program and a preview of the 2021 alumni are included in this issue (see page 12). We are certainly looking forward to working with an already

Certification Program and the environmental initiative in conjunction with The R&A and GEO. Other projects have continued to develop in preparation for release in the coming months, such as the Golf Course 2030 Program.

We continue to work on the development of education and employment as a priority. Feedback from the Association's workforce benchmarking survey has provided valuable insights into the challenges of attraction and retention within each State. Nationally, this remains a significant area of focus. Further updates and announcements regarding this study and the work undertaken with State Governments are planned for release in early 2022.

As we move towards the end of 2021 and continue to work our way through changing regulations and opportunities, the Association will continue to actively work with members and the industry for ways we can assist. So if there is anything you would like to discuss, please don't hesitate to get in touch with the team or myself.





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*"Superintendents best friend. Bring on the good weather!" (Is Warrnambool GC superintendent @BrentonClarke23 referring to his canine deputy Rama – who appears in these pages for a second time – or the moisture probe? Changing holes as a spectacular sunrise breaks over Victoria's Shipwreck Coast in October.)*



Picture  
**perfect**  
posts

*ATM curates some of the best images posted by Aussie turfies on social media in recent times.*



**JOEL TOOGOOD**

*"Great job by the team getting the venue back into operation for the first international at both CommBank Stadium and Stadium Australia... Great to have some sport back." (CommBank Stadium looking a picture ahead of the Matildas hosting Brazil in a two-match series in late October.)*



**IDRIS EVANS**

*"Always a stunning time of the day." (A glorious late October morning snapped by Western Australian Golf Club superintendent Idris Evans.)*



**f** BRETT WOODWARD (LEFT) AND DAVID THOMSON (RIGHT)

**‘Just a reminder to get your body checked for melanoma every couple of months. Just got this 12cm cut out this week and trust me if you leave it too long the bigger they get.’**

(Coral Cove superintendent Brett Woodward posts a graphic reminder of the real threat melanoma presents. Woodward’s photo (left), prompted ASTMA Board member David Thomson to post his own pic along with the comment ‘Real men get staples’.)



**ig** DIVOT THE DOG

**‘Left: This coring greens thing is a walk in the park. Not sure why @eastlakesuperintendent stresses out so much! Right: Topdressing greens, it would be fun @eastlakesuperintendent said. Not impressed!’** (Eastlake Golf Club’s newest recruit, Divot the kelpie, gets his first taste of greens renovations with boss Nathan Bradbury. Check out Divot’s weekly course escapades @divot.thedog.)



**f** RGC MEMBERS

**‘We would like to send a big shout out to Dean Bailey and his team for all of the hard work they do to keep our course in great condition all year round.’** (Members of Rosanna Golf Club in Melbourne get behind their crew for International Thank a Superintendent Day in September.)



**t** STUART CAMPBELL

**‘Thanks to some of the New Zealand All Blacks for getting photos taken with the groundstaff at Maroochy River Golf Club before they hit off. Hope you enjoy the course!’** (@MRGCsuper Stuart Campbell snapped his crew with a number of the ABs who were enjoying some downtime after securing the 2021 Rugby Championship in early October.)



**in** SAM TANKARD

**‘Track in amazing condition, Bealey and RPR thriving. Pleasure to put the finishing touches on.’** (Moonee Valley track manager Sam Tankard has Moonee Valley in prime nick ahead of the Ladbrokes Cox Plate Carnival in October.)



PHOTOS: TONY HEMMING, HG TURF GROEP AND VENUES LIVE

*Optus Stadium, led by head curator Tony Hemming and his team, played a pivotal role in ensuring the 2021 AFL Premiership season not only finished as planned, but also provided a fitting stage for the Melbourne Football Club to end an agonising 57-year title drought*



# Optus at its optimum

*In 2020 it was The Gabba in Brisbane, in 2021 it was Optus Stadium in Perth. For the first time in its short history, the West's spectacular new sporting arena, overseen by head curator Tony Hemming, played host to the 2021 AFL Grand Final after yet another Premiership season was impacted by the COVID-19 pandemic.*



*Optus Stadium head curator Tony Hemming (middle) with his HG Turf team (from left) Ned Sorrell (2021 STA Sports Turf Graduate of the Year winner), assistant Brendon Large, Rhys Whitting and Vince Poller*

**W**hen Tony Hemming (CSTM) was announced as head curator of the new Optus Stadium in Perth back in early 2017, one of the key reasons for the appointment by HG Turf Group was not only his vast industry experience and knowledge in managing elite facilities – some 30 years – but also his big event pedigree.

With a resume that included significant tenures at the MCG, where he spent the first 12 years of his career (five as head curator) and more recently a decade at the International Cricket Council Academy in Dubai, Hemming had consistently proven himself and the teams that he led on the big stage.

Since Optus Stadium officially opened in January 2018, Hemming has guided his crew with skill and expertise and quickly established

the ground as one of the best playing surfaces in the country. In any one year the ground can host up to 24 AFL games (25 as it would turn out in 2021), international rugby and soccer games, a steady diet of cricket over the summer months – Test, One Day Internationals and Big Bash League – not to mention numerous concerts (Taylor Swift, U2 and Ed Sheeran) and other major local events.

Optus Stadium hosted its first AFL Premiership game on 25 March 2018 between tenant club West Coast and visitors Sydney, and in the four seasons since has gone on to host a total of 80 matches, including seven Finals Series encounters. But it was the 80th and most recent match that Hemming and his current crew of assistant Brendon Large, Rhys Whitting, Vince Poller and Ned Sorrell will be storing long in the memory banks.



## INTERSTATE AGAIN

Just as the 2020 AFL Premiership season had been dramatically impacted by the COVID-19 pandemic, so to was 2021. Like The Gabba in Brisbane 12 months earlier, Optus Stadium would play a pivotal role in ensuring the regular season would not only finish as scheduled, but also provide a fitting primary venue for the Finals Series. No stranger to hosting big games, earlier in the season it was the go-to venue for the AFL's traditional Dreamtime Round spectacular between Essendon and Richmond. More than 55,000 fans packed into the cauldron to witness one of the competition's most iconic fixtures.

After Victoria entered its sixth lockdown on 6 August and with it the prospect of finals football being played in front of reduced or no crowds, the AFL had little choice but to send its biggest spectacle interstate for the second time in 12 months. On 31 August AFL CEO Gillon McLachlan confirmed that the 2021 AFL Grand Final would be heading west, with Optus Stadium winning out over Adelaide Oval. With COVID rates in the state negligible and with a capacity crowd in excess of 60,000 guaranteed, it was fait accompli. Hemming and his team would have 25 days to get the ground ready for one of the pinnacle events on the Australian sporting calendar.

At the time of the announcement, Hemming posted on LinkedIn: "It is very humbling to be granted the chance to present to the world what our HG Turf Perth crew can present. This will be my 13th Grand Final preparation week, going way back to the days of mud, Super Soppers and FountainLine markers at the MCG. Having served the MCC for over decade, I can't wait for the hairs to stand up on everyone's neck in Perth!"

Less than a week later Hemming and his team literally had their first big 'Test' of what would become a month to remember. Hosting the Geelong v GWS semi-final on 3 September, they then had less than 48 hours to turn the ground around for the Bledisloe Cup clash between the Wallabies and All Blacks.

That was followed five days later with the Melbourne v Geelong preliminary final on 10 September before a two week hiatus until the big one on 25 September. Seven days after the AFL Grand Final, which also included the Under 19 National Championships curtain-raiser between WA and SA, Optus Stadium hosted the WAFL season finale between Subiaco and South Fremantle.

*Assistant stadium manager Brendon Large puts the finishing touches to the surface ahead of the 25 September 2021 AFL Grand Final*

“We spent the first week after the end of the AFL regular season letting the surface recover,” explains Hemming. “It was a busy schedule for us and one which coincided with the highest rainfall Perth has had in 50 years. We replaced turf where needed, aerated, cored, vertimowed, repaired any divots, seeded and fertilised. We then groomed the surface to the height to accommodate the AFL extravaganza entertainment side of the event.

“The field was well and truly ready the Monday before the final. The Grand Final aside, it was a very busy week. The ground had to endure six hours of team training sessions, rehearsals for the music acts and dance crews, as well as practice for the bumping in of the stage with LED screens, fireworks and lights. Then on the Friday we had the Captain’s Runs before having 13 hours in which to give the ground its final preparation before the curtain-raiser.

“I have been lucky to experience many great events during my career – World Cup soccer matches, International cricket Tests – and this year’s AFL Grand Final definitely ranks among those. Our hard working team of Ned, Lergie, Rhys and Vinnie did an amazing job. They didn’t take one divot for granted, continued to strive for excellence and delivered. I’m sure they will all say it’s their No.1 event and a day (and week) we will all remember for a long time.”

The efforts of Hemming and his team in providing a fitting stage for the final didn’t go unrecognised. Speaking in the days after the final, Chris Loftus-Hills, general manager of events and operations for Venues Live (which operates the stadium) posted the following comments on LinkedIn.

“It was a great honour to be entrusted with hosting responsibility in 2021... It was epic. It was spectacular. It was everything we, and everyone across Perth and Western Australia, had hoped it was going to be. The delivery of an event of this scale and complexity in just 25 days could not have happened successfully without true collaboration and the perfect attitude from every single person involved.

“To the team at HG Turf who look after the green stuff in the middle. After a super wet and super tough year, together with the demands of Grand Final week, you produced an impeccable surface that was absolutely cherry ripe.”

In what would end up being one of the most one-sided finals in the game’s history, the Melbourne Football Club pumelled the Western Bulldogs by 74 points, ending a 57-year Premiership drought in the process. An unashamed Tigers fan, Hemming could

*Since 2018, Optus Stadium has now hosted 80 AFL matches in four seasons. Pictured is Vince Poller giving the surface a final trim ahead of the Grand Final*



**A twilight start time meant Optus Stadium could make full use of its spectacular lighting and entertainment system**

not have been happier for the Max Gawn-led Demons, a team he had a close affinity with during his early years at the MCG.

## HEROIC SURFACE

Few could fault Optus Stadium as it pulled off the AFL’s first twilight Grand Final in spectacular style. The arena’s impressive lighting and entertainment system put on a show, but at the end of the day it was the surface which shone for Hemming.

Optus Stadium boasts a composition of Wintergreen couchgrass oversown with ryegrass and utilises HG Turf’s HERO Hybrid Turf product, one which combines natural grass and artificial grass. The surface is oversown with Barenbrug’s Pinnacle III ryegrass to give resilience and colour across the ground to cope with the high levels of traffic while maintaining a consistent surface.

Hemming’s maintenance plan for the stadium is an annual cycle, starting at the last AFL game for the season to prepare for the

summer. The couchgrass is allowed to grow to around 9-10mm by January, to allow for a faster cricket outfield and to give stronger colour. During February and March, the length increases to 15mm in preparation for the AFL season. Grooming occurs every two weeks, with coring for seeding of the rye in mid-April.

“Oversowing with Pinnacle III was a natural choice as it provides the three key elements I’m looking for – colour, drought resistance and disease resistance,” says Hemming. “The HERO hybrid surface we believe helps us in the wet and allows for faster recovery from damaged turf by major events. The fact that we only replaced the centre circle for the AFL Grand Final is testament to that.

“We aim for the highest technical standards for each event. If it’s rugby, we want to be Eden Park. If it’s cricket, we want to be Lords. If it’s soccer, we want to be Wembley. We have full confidence in the product we produce and our team’s professional know-how to get it right on the day.”





# The chosen ones

**T**he Australian Sports Turf Managers Association and gold partner Jacobsen, in conjunction with the New Zealand Golf Course Superintendents Association, has announced the successful applicants for the 2021 Future Turf Managers' Initiative (FTMI).

Always an exceptionally popular program among sports turf managers looking to advance their careers, 2021 saw an overwhelming response to the program. This year's applications were well above previous years and far exceeded available places.

The FTMI is a worldwide program developed by Jacobsen, designed to provide practical tools and guidance to help candidates pursue their career aspirations through a professional development course. Together, the ASTMA and Jacobsen have been offering this highly successful training opportunity to Australian and New Zealand turf management staff since 2016. More than 150 candidates have been selected to be a part of the program to date.

Working with professional trainers, industry leading mentors, Jacobsen, ASTMA and NZGCSA staff, candidates are provided

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



with training and knowledge relating to management and leadership. They leave FTMI with a clear understanding of what the future holds, an understanding of the expectations that come with the role of a leader and practical skills to develop their career as a future leader in the sports turf management industry.

The 2021 FTMI will be a combined online learning and face-to-face education model for Australian and New Zealand turf managers, taking place over the course of five months. Online modules commence in late October

2021 and culminate in an intensive two-day, in-person program to be held in Melbourne during March 2022.



**ANDREW ANDERSON**  
Assistant superintendent, The Metropolitan Golf Club, Vic

Having grown up in Brisbane with a great passion for the game,

Anderson transitioned into the trade as an apprentice at Sandgate Golf Club at the age of 18. He completed an apprenticeship at neighbouring Virginia Golf Club, which provided the motivation to look south to gain some cool-season experience.

Anderson landed a position at Bonnie Doon Golf Club in Sydney for a year before heading across to New South Wales Golf Club. Both were fantastic experiences and held him in good stead for ultimately moving to the Sandbelt.

An opportunity appeared at The Metropolitan Golf Club, which had just been announced to host the 2018 World Cup of Golf. Anderson served as foreman leading into the tournament. That invaluable experience led to his appointment as assistant

*Opposite: Metropolitan Golf Club assistant superintendent Andrew Anderson is one of 20 applicants to be accepted into a new-look Future Turf Managers' Initiative programme for 2021*

*Right: Hayden Williams, course manager at Pukekohe Golf Club in South Auckland, is one of two NZ-based turf managers in the latest FTMI intake*

superintendent at Metropolitan, a position he has held for approaching five years.



### PETER BELL

**Foreman, Glenelg Golf Club, SA**

Bell's career began as an apprentice at the Coomealla Golf Club on the banks of the Murray

River near Mildura. After moving to Melbourne in 2014, Bell started as a groundsman at Metropolitan Golf Club where he gained an appreciation of the famed Sandbelt courses. Bell then spent five years at Victoria Golf Club as a groundsman and foreman where he was involved in the replacement of greens, surrounds, tees and a new irrigation system.

At the beginning of 2021 Bell relocated to South Australia and is currently the foreman at Glenelg Golf Club. He works closely with the management team to continually progress a course now ranked No.36 in Australia and is looking forward to the club's course enhancement project over the next three to five years.



### MATTHEW BROAD

**Links foreman, The Royal Sydney Golf Club, NSW**

Broad completed a Bachelor in Sport Technology from Sheffield

Hallam University in 2015. His final-year dissertation was based on testing the quality of



ball roll on greens, which further elaborated his long-standing passion for the sport.

After relocating to Australia in 2015, Broad worked at Sorrento Golf Club on Victoria's Mornington Peninsula where he received an introduction to warm-season turf maintenance and the technical skills required to succeed in these conditions.

For the past five years Broad has worked at The Royal Sydney Golf Club. He started there as a seasonal greenkeeper in preparation for the 2016 Australian Open, gaining sponsorship soon after as well as permanent residency. He completed a Turfgrass Management Certificate via Penn State University in 2018.

Having held the position of links foreman for the past 18 months, Broad is looking forward to playing a key role in the reconstruction of Royal Sydney's championship layout while continuing to gain valuable knowledge from other turf professionals.



### LUKE DISERENS

**Assistant superintendent, Roseville Golf Club, NSW**

After beginning as an apprentice greenkeeper at Kooindah Waters

Golf Club on the NSW Central Coast in 2008, Diserens has been privileged to work at some of the finest Sydney facilities over the past 14 years.

The exclusive Elanora Country Club on Sydney's Northern Beaches employed Diserens as a senior greenkeeper from 2012 during which time he completed a Certificate III in Landscape Construction and a Certificate III and IV in Horticulture.

After four years Diserens made a short hop across to Mona Vale Golf Club where he was appointed assistant superintendent. During his current stint at Roseville Golf Club, Diserens finished a Diploma in Sports Turf Management and completed the ASTMA's Certification Program (CSTM), gaining the designation of Certified Sports Turf Manager.

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## MICHAEL ERVIN

**Assistant superintendent,  
Kooindah Waters Golf Club, NSW**

Since the age of 15, Ervin always worked on a golf course and probably never really had another career in mind. He grew up just up the road from Cessnock Golf Club in the NSW Lower Hunter Valley and that's where Ervin started an apprenticeship at 17 years of age. Apart from an introduction into the turf industry, the club also had a bowling green so he got to learn about different types of playing surfaces.

Following his apprenticeship, Ervin moved to The Vintage Golf Club and received an eye-opener into a large-scale operation and what it takes to maintain a course consistently ranked in the nation's top 50. Three years later Ervin downsized, transferring to the nine-hole Branxton Golf Club, which he maintained with just one other labourer. From there he got the opportunity to return as assistant superintendent at Cessnock, which had been renovated and rebranded as Stonebridge Golf Club.

Then after an unsatisfying two-year stint in the mining industry, Ervin went back to The Vintage as the 3IC/spray tech and then 3IC/irrigation tech. He was there for nearly five years before transferring to Kooindah Waters Golf Club where he is now the assistant superintendent.



## PETER FOREMAN

**Assistant turf manager, Adelaide Oval, SA**

A love of the outdoors put Foreman on track for a career in turf/horticulture. He began an apprenticeship in 1998 at the Belair Park Golf Club in Adelaide. After completing this he was fortunate to be involved in The Ohio Program, taking Foreman to New York. He then secured work in Scotland and the Caribbean.

After three years overseas, Foreman returned to Australia to work at Metropolitan Golf Club in Melbourne and Glenelg Golf Club back in Adelaide. Changing roles into sports fields, he worked at AAMI stadium before accepting his current position as assistant turf manager at Adelaide Oval.



## BRETT HARDEMAN

**Assistant superintendent,  
Koorungal Golf Club, Vic**

Cutting turf pitches in the front yard lawn as a kid helped inspire Hardeeman to a career in turf and horticulture. After finishing his VCE, he completed a Certificate IV in Horticulture (full-time) and Diploma in Horticulture (part-time).

During the part-time studies, he started a gardening and turf/landscaping business. This led to preparing turf pitches on local cricket



*For the past five years Matthew Broad has worked at The Royal Sydney Golf Club, starting as a seasonal greenkeeper in preparation for the 2016 Australian Open (pictured) before rising to the role of links foreman*

grounds during a challenging period that coincided with Melbourne's water restrictions.

Hardeeman then took on a new position with the City of Melbourne as a sports turf curator for five years. Seeking a new challenge, he ventured into golf where he is now the assistant superintendent at Koorungal GC. Outside of turf, the father of two has made the plunge into golf coaching.



## MARLON JOHNSTON

**Assistant superintendent, Terrey Hills Golf and Country Club, NSW**

Born and raised on the northwest coast of Tasmania, Johnston started in the turf industry when he relocated to Hobart to start an apprenticeship working on sports fields and cricket wickets at The Twin Ovals.

Johnston moved to Sydney on completion of the apprenticeship and made the transition in codes at New South Wales Golf Club. Two years later, with encouragement from superintendent Gary Dempsey, he joined The Ohio Program where he was fortunate enough to be placed at Oakmont Country Club when it staged the 2016 US Open and then Austin Country Club, host venue for the 2017 WGC Matchplay event.

In 2017 Johnston returned to Sydney and joined the team at The Lakes Golf Club under superintendent Anthony Mills in preparation for the 2018 Australian Open. He then moved to Terrey Hills Golf and Country Club to be assistant superintendent on Gareth Hammond's crew.



## JOSH LACEY

**Superintendent, Maryborough Golf Club, Vic**

Lacey always had an interest in working on a golf course from a young age. At 15 he completed work experience at Maryborough Golf Club in the Central Goldfields region northwest of Melbourne.

Lacey did volunteer work at Dunolly Golf Club – a small sand scrape course just outside Maryborough – and also maintained the local cricket pitch at Dunolly prior to starting an apprenticeship at Maryborough under the tutelage of Craig Mills and then Andrew Maggs.

While stacking supermarket shelves at Coles, Lacey furthered his education at Gordon TAFE in Geelong, studying under Greg Ollis, Christopher Deppeler and Paul Deller. After completing his apprenticeship, Lacey remained at Maryborough to be 2IC under Maggs and hone his turf skills. Four years later when Maggs stepped aside to deal with health-related issues, Lacey took over the day-to-day running of Maryborough before eventually taking over permanently as superintendent during the past year.



## KENNY MCNAMEE

**Senior greenkeeper, The Royal Sydney Golf Club, NSW**

McNamee's journey began as a seasonal greenkeeper with a small team at Cowglen Golf Club in Scotland just minutes from the Glasgow city centre. He followed his passion and obtained an apprenticeship at The Carrick on Loch Lomond.

With a desire to work on the world's best golf courses, McNamee enrolled in The Ohio Program where he was able to experience greenkeeping at high-calibre tournaments. The opportunities to work at Los Angeles Country Club and Merion Golf Club during its 2018 reconstruction phase were highlights. With a thirst for travel, McNamee has continued his journey to Australia where he is currently on staff at The Royal Sydney Golf Club under superintendent Adam Marchant.



## MATTHEW MANEVSKI

**3IC, Muirfield Golf Club, NSW**  
Growing up in Sydney with a distinct love for all sports

and as a low-handicap golfer, Manevski enrolled at Richmond TAFE to study horticulture and pursue a career in greenkeeping and turf management. From there he was hired as an apprentice at Riverside Oaks Golf Resort.

As part of The Ohio Program, Manevski spent the fourth year of his apprenticeship at Quail Hollow Club in North Carolina, annual

host of the Wells Fargo Championship, as well as Merion Golf Club in Philadelphia, which hosted the Walker Cup.

After an 18-month stint in America, Manevski returned to Sydney and took a position at Muirfield Golf Club where he has worked for 11 years and graduated to the position of 3IC. Away from golf, the 34-year-old has been an AFL umpire for 15 seasons in the Sydney competition and NEAFL.



### KASEE MARXSEN

**Assistant superintendent, Pacific Harbour Golf & Country Club, Qld**

Marxsen's career in turf management began as an apprentice at Queensland Cricket where she learnt the art of preparing cricket wickets. To further her turf knowledge, Marxsen applied for a place in The Ohio Program during which she spent time at Harbour Town Golf Links. Her passion for turf management grew as she experienced course management and worked on US PGA Tour events at the famed South Carolina facility.

On return from the US, Marxsen worked at Royal Queensland Golf Club during its redevelopment, learning about course construction and maintenance. From there she took on the 2IC positions at Gladstone

Golf Club on Queensland's Capricorn Coast followed by Bargara Golf Club.

In her most recent career progression, Marxsen relocated to Pacific Harbour Golf & Country Club on Bribie Island where she has been assistant superintendent at the Troon-managed facility for the past 18 months.



### RICHIE MAY

**Assistant superintendent, Cottesloe Golf Club, WA**

May has always been interested in sport from a young age. Golf was no exception and he would accompany his dad to par-3 courses, learning about all things golf. May's turf career began in England, working at Cooden Beach Golf Club in East Sussex from the age of 16. After finishing qualification, he was offered a permanent greenkeeper role. During eight years at Cooden, he held the leading hand and then assistant head greenkeeper positions.

Having met his future Australian wife while she was travelling around England on a working holiday, May subsequently immigrated to Australia in 2010. After a brief stint at Burswood Golf Club, he joined the team at Cottesloe Golf Club in 2011. The father of two has held the position of greenkeeper, foreman and most recently assistant superintendent.



### DAN NICHOLS

**Team leader (sporting reserves), Latrobe City Council, Vic**

Originally from Bedfordshire in the UK, Nichols found himself in regional Victoria playing cricket 10 years ago. As befalls many an 'import', he met a local girl and extended his stay in Australia.

Supergardens gave Nichols an opportunity on the grounds crew at Caulfield Racecourse. He began the Cert III of Sports Turf Management at Holmesglen and moved to Camberwell Grammar where he worked on the oval, preparing cricket pitches. Having since completed the Diploma, he has undertaken a Bachelor Degree at Melbourne Polytechnic.

Nichols is now employed by the Latrobe City Council in Victoria's Gippsland region as team leader of sporting reserves. With a crew of five, the role involves supervising the maintenance of the municipality's sports fields.



### DERMOTT O'CONNOR

**Foreman, 13th Beach Golf Links, Vic**

Raised on a dairy farm an hour from Warrnambool, O'Connor had wanted to pursue a career in sports and the outdoors since he was a schoolboy. After work experience in landscaping, he learnt the

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## ENGRAVE



## BRONZE PLAQUE



## PAINT





*Marlon Johnston, pictured second from left, was part of The Lakes GC crew which hosted the 2018 Australian Open before taking on the role of 2IC at Terry Hills in Sydney's northern suburbs. Pictured second from right is 2020 FTMI delegate Simon Blagg*

fundamentals of the turf industry during a two-year, school-based traineeship at Warrnambool Racing Club through South West TAFE.

After completing high school, O'Connor moved to Barwon Heads and started an apprenticeship at 13th Beach Golf Links (through The Gordon TAFE) where he's benefitted from a great learning environment at the host venue of the Vic Open.

Upon completing his apprenticeship, O'Connor moved to Scotland for six months where he was fortunate enough to work on The Old Course at St Andrews. He has since returned to 13th Beach where he's undertaken the role of foreman as well as completing a Diploma at Melbourne Polytechnic this year.



### SHAUN REARDON

**Groundskeeper, Wagga Wagga City Council, NSW**

Reardon grew up in the small town of Temora, one hour's drive from Wagga Wagga, with a passion for rugby league and athletics. He got a foothold into the turf industry through full-time employment at Wagga Wagga City Council as a gardener six years ago.

Reardon learnt about turf management by working on a variety of sporting grounds (rugby league, Aussie rules, croquet greens, athletics tracks and touch fields). During the past three years, he has played a significant role in council's oversow program – oversowing the majority of its winter sports fields with rye grass while contributing to chemical and fertiliser applications.

In a sign of greater responsibility, Reardon now co-manages two of the Riverina's largest sporting facilities, Jubilee Park and Equex Centre. In 2022, these facilities will host an NRL game and the NSW Junior State Cup touch football carnival. Reardon is hoping the FTMI will further his hunger to learn about the industry and improve his skills.



### SAM ROSE

**Spray technician, Royal Canberra Golf Club, ACT**

Born and raised in the NSW Southern Highlands NSW, Rose started as an apprentice at Mount Broughton Golf and Country Club. After completing the apprenticeship, he took a greenkeeper role with Atlas Golf Services, where he assisted with several course construction projects across NSW.

Since then Rose accepted a qualified greenkeeper role at Royal Canberra Golf Club under the guidance of superintendent Jake Gibbs. He has since been promoted to spray technician. He considers working as a volunteer at the 2019 Australian Open at The Australian Golf Club as a career highlight. On the tertiary side, he completed a Certificate III, IV and Diploma in Sports Turf Management at Ryde TAFE. In 2018 Rose was named NSW Agribusiness Student of the Year.



### NIK SMITH

**Assistant superintendent, Maleny Golf Club, Qld**

Originally from Melbourne, Smith completed an apprenticeship at Commonwealth Golf Club in 1994. At the end of the apprenticeship, Smith managed to land a job at Kingston Heath Golf Club where he was fortunate to be part of the team preparing the course for the 1995 Australian Open.

From 1998 Smith pursued another career path. Then in 2015 Smith's family travelled around Australia in a caravan. While in Perth he obtained a short-term position at Lake Karingyup Country Club for the 2016 Perth International. It was at Lake Karingyup where Smith rekindled his passion for greenkeeping.

Upon settling on Queensland's Sunshine Coast, Smith found employment at Pelican Waters Golf Club. In January 2020, he was the successful applicant for the assistant

superintendent role at Maleny Golf Club in the Sunshine Coast hinterland. With a close-knit maintenance crew, the move has vindicated Smith's return to the turf industry.



### HAYDEN STUTHRIDGE

**Foreman, North Shore Golf Club, New Zealand**

Entering his eighth year in the sports turf sector, Stuthridge's journey started in New Zealand as a groundsman for Lawn Management, a small family-owned contracting business. Mentored by owner Glen Woodward, Stuthridge spent four years learning the trade and completing an apprenticeship.

A passion for turf grass combined with love for golf led to experiencing the European Tour in Sweden. Since 2019 Stuthridge has learnt the finer details of greenkeeping at Royal Melbourne Golf Club where he experienced the staging of the 2019 Presidents Cup, renovation projects on the East course and the redesign of Sandringham Golf Course.

The 26-year-old is now applying this acquired knowledge in his current role as foreman at North Shore Golf Club in Auckland, under the expert guidance of course superintendent Tony Jonas.



### HAYDEN WILLIAMS

**Course manager, Pukekohe Golf Club, New Zealand**

Born in Pukekohe, South Auckland, Williams accepted a job at turf construction company TIC Contracting at 17 years of age. He completed a Level IV Turf Management apprenticeship and worked at TIC Contracting for nine years, building golf courses and sports fields as well as managing large-scale projects.

Williams moved to Field Turf NZ where he specialised in building cricket blocks for domestic and international competitions as well as managing the portable cricket nursery in Napier. He moved back to the golf industry with Groundvision where he completed a number of reconstructions of putting greens and bunkers, including the new Tieke Golf Estate construction process. Williams returned to his roots when offered the position of senior qualified greenkeeper at Pukekohe Golf Club. The father of three has since been promoted to the role of course manager. 🌱



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# Restoring Dunedoo

PHOTOS: GOLF NSW, TURF AUSTRALIA, MARTYN BLACK

*Over three days in early June, the turf industry rallied around the country nine-hole golf course at Dunedoo, re-turfing a number of holes that had been destroyed by a senseless act of vandalism in April.*

It made national and international headlines – ‘NSW golf course torn up by tractor vandal.’ In late April the small nine-hole golf course which services the central west NSW township of Dunedoo was brazenly vandalised. Using a disc plough hooked up to a tractor, the vandal, who was later arrested and charged with multiple offences, tore up four of Dunedoo’s fairways and three sand scrape greens. Tens of thousands of square metres of grass was ploughed through, rendering the course unplayable and leaving behind what resembled more of a battleground than golf course.

Dunedoo is a tiny town about 90km north east of Dubbo and home to less than 1000 people. When a town that small has a golf course with about 500 members, you know it has a special place in the fabric of the town. To say that the club, its members and the township as a whole were dumbfounded at

what transpired that April day would be an understatement.

Speaking to Golf NSW at the time of the incident, Dunedoo Golf Club general manager Ricky Bush said the damage had left the members and the village’s community reeling. “People were just staring at the mess and starting to cry. They couldn’t believe it. The club is a community asset, a vital part of the

town. We were the only sport in town which had kept going through the COVID pandemic.”

A tight knit community, it wasn’t long before the club received offers from locals willing to help with the restoration of the course. There were offers of machinery from townsfolk who weren’t even members or had played a game of golf in their life, giving an indication of just how important the club was to



*Above and right: In late April a lone vandal took to the nine-hole course at Dunedoo Golf Club with a tractor and disc plough, tearing up four fairways and three sand scrape greens*



*Despite coinciding with some of the coldest and wettest weather to hit Dunedoo in years, volunteers turned up in droves to assist with the course restoration*

the local community. A GoFundMe page was even set up to assist with the club's rebuilding effort and would go on to raise in excess of \$11,200.

## AN INDUSTRY RALLIES

As news filtered through of the vandalism, Dunedoo's plight struck at the heart of many in the golf, sports turf and turf production communities. As has been witnessed many times in the past when clubs and facilities have fallen on hard times, the turf industry rallies around and no more would that be on display when Dunedoo put the call out for assistance.

When NSW turf producers Paul Saad (Southern Cross Turf) and Graeme Colless (Dad and Dave's Turf) heard about the destructive vandalism wrecked upon the course, they knew they had to do something and so began the mobilisation of a veritable army to help out a small club in desperate need of rescuing.

"I was listening to the radio one morning when I heard of the town's plight," says Saad, whose family-owned turf farm is based in Freemans Reach. "It was harrowing to hear of the destruction to the golf course. I know what recreation venues like this mean to a small town, so I knew I had to do something. I quickly called my good friend Graeme Colless and we immediately got to work."

Between them, Saad and Colless were willing to donate 20,000m<sup>2</sup> of turf from their own production farms, but due to the magnitude of work needed to reinstate the Dunedoo course, they needed at least double that amount. In a true display of the generosity and mateship that is typical in the turf industry, a quick ring around to muster up support from their fellow turf producers yielded results and over the space of a few days over 40,000m<sup>2</sup> of turf had been committed to help restore the Dunedoo course. According to Saad, the generosity stemmed from an understanding of what it takes to get through the hard times.

"Dunedoo is a town that experienced years of intense drought," says Saad. "These people faced some tough times and had to make some horrible decisions over those years, but the golf course provided a sanctuary,



*Dunedoo GC president Mark Gallagher (left) and Graeme Colless (right), of Dad and Dave's Turf, survey the works. Colless, together with fellow turf producer Paul Saad, played a key role in mustering up industry support*

somewhere to come after a hard day, to interact with others doing it tough and forget about it for a while. My colleagues in the turf industry were absolutely chomping at the bit to help."

Rustling up 40,000m<sup>2</sup> of donated turf is by no means an easy feat, even in the boom times. Compounding the challenges for Dunedoo was that the Hawkesbury valley, cradle of the NSW turf production industry, was dealing with the impacts of a once-in-a-generation flood event in March that had devastated crops and threatened turf supply in the state. When asked why the turf production community was able to dig deep even during their own hard times, Saad was typically philosophical.

"The flood that hit the Hawkesbury was devastating, but in the grand scheme of things we always knew we would recover and rebuild," says Saad. "This year will be a difficult year for us, but we've had our fair share of good years too. You take the good with the bad as a turf farmer, but one thing that remains constant is our passion for ensuring that our

communities have the green space that they need to thrive."

The restoration of the golf course means much more to the town of Dunedoo than some rolls of grass. As COVID-19 lockdowns and uncertainty continue to plague the country, the importance of green space and its benefits have continued to come to the fore. And for a town like Dunedoo having wide, open stretches of turf was, quite literally, breathing life into their town.

## ROLLING OUT THE GREEN CARPET

In early June, Saad, Colless and several other NSW turf growers arrived in Dunedoo to start the job of rolling out the 40,000m<sup>2</sup> of turf that was coming from all over the state and as far away as Queensland. The turf was rolled out over several days in gruelling conditions as sub-zero temperatures, frost and even snow hampered the job. But that didn't stop hundreds of volunteers from the town and the wider turf industry showing up every day.

Among those to make the trip from afar to assist in laying the turf were the likes of



*More than 40,000m<sup>2</sup> of turf was donated from a number of turf farms across NSW and Queensland*

## THE RESCUE OF DUNEDOO

**A**mong the throng of sports turf managers and volunteers to turn up to assist in the restoration of Dunedoo Golf Club was NSWGCSA life member and former Castle Hill Country Club course superintendent Martyn Black. The fact the project coincided with the coldest three consecutive days in 135 years made it all the more memorable for those involved and in true 'Blacky' style, the well-known turf industry raconteur and bush poet put pen to paper to pay tribute to those who helped rescue a vital community asset...

*Dunedoo was in the poo and needed a bit of a hand.  
They had some drama at the course that had turned the grass to sand.  
So the call went out for volunteers who came from far and wide  
And Dunedoo awoke to the fact there were good people on their side.*

*The turf producing community ran the show, with generosity beyond belief.  
They provided the ammunition to bring happiness from grief.  
The turf arrived from everywhere, including interstate,  
As petty rivalries were put aside, 'coz ya gotta help yer mates!'*

*So the volunteer army assembled, well over 100 strong,  
As people of all persuasions were happy to join the throng.  
The camaraderie and community spirit, well it brought grown men to tears.  
Age was certainly no barrier, as the gap between old and young was over 70 years.*

*Old Mother Nature then stepped in, to remind us that she rules  
And she sent us a three day 'Arctic blast' that was as cold as a frog in an ice-bound pool.  
It was as cold as the end of a Laplanders tool. It was as cold as an Eskimo blue and glum.  
It was as cold as the hairs on a polar bear's bum!*

*Despite the cold she couldn't dampen our growing enthusiasm  
As president Mark stood on the veranda to welcome the congregation.  
He spoke with pride of his assembled tribe, as being part of the fabric of our great nation,  
But emotion got the better of him, as the tears rolled down his face,  
They quickly turned to icicles and he had to be replaced.*

*So 'not very' Reverend Colless came off the bench, with some hi-tech safety advice.  
I suppose you could slip over, if you weren't real careful, due to the mud and ice.  
But really, all he had to say, to reduce the chance of bad luck,  
Was "Lay the turf the green side up and don't get hit by the trucks!"*

*So seasoned pros and amateurs alike, went to get the green stuff down  
And the end result will always be a talking point in town.  
Well, we laid the first full par five in just under three hours,  
As the hundred-strong army began to deploy its impressive collective powers.  
The forklift trucks did their best to keep up the supply.  
But more than once "C'mon mate, keep up can't ya?! became the playful cry.*

*But an army runs on its stomach, that's true, and first up were the octogenarians.  
Fair dinkum the spit roast lamb was that bloody good we felt sorry for vegetarians!  
Then it was back out again for the arvo session, as we laughed at the increasing showers,  
"Stay the course, boys and girls, we will run out of turf in two hours!"*

*By the end of the day 26,000 square meters were laid, and the Blues crushed the Cane Toads that night.  
But those charged with keepin' the beer up to us, got a bit of a fright.  
But the midnight curfew saved any drama, absolutely no doubt about it,  
Cos a club without beer is quite lonesome they say and some blokes can't live without it.*

*Anyway, what more can I say, but to cut a long story short,  
10,000 to lay over the next two days was just a bit of sport.  
But the celebration on Thursday night had to be seen to be believed.  
The fact we didn't destroy the joint, left management quite relieved.  
Some blokes were shearing bar stools. Others were galloping chairs.  
The stage was open to anyone prepared to 'take the dare'.  
President Gallagher and Graham Colless were one such notable pair.  
They both received standing ovations once they'd had their turn.  
As did the 'old bloke' who hit the dance floor, then dropped and did 'the worm'!*

*At the end of the day, I would just like to say, it was an experience to savour.  
So tourists and golfers don't miss the chance and do yourselves a favour.  
Get out to the golf course at Dunedoo and taste the fruits of our labour.*

- Martyn "Blacky" Black, July 2021



legendary former Sydney Cricket Ground curator Tom Parker, Sydney-based golf course superintendents Mark Parker (NSW Golf Club) and Mark O'Sullivan (Roseville Golf Club), Golf NSW regional agronomist Martyn Black and former Gloucester Golf Club superintendent of 41 years Brian 'Hairy' Osborne.

"The sheer volume of volunteers we had join us showed how important this green space was to the town," says Saad. "The people of Dunedoo pulled out all the stops for us and made us feel incredibly welcome, as if we were visiting our own hometown. Whether it be the dozens of Dunedoo Swans players stopping by to help, or the older statesmen of the town sharing a few stories over a beer at the end of the day, we really got to see the true beauty of the Dunedoo community during our time there."

Rob Whackett, director of Dunedoo Golf Club, was deeply thankful for the generosity, effort and overall spirit shown by the growers and volunteers. "For these growers to dedicate their time and their turf to us in the middle of one of their own toughest periods was humbling," says Whackett. "For those guys who have been through what they've been through and keep giving is absolutely remarkable. To be honest, it's hard to fathom."

For Saad, Colless and the rest of the turf community that showed up to help, it was the



Enjoying a well-earned beverage (not to mention a NSW State of Origin win) were (from left) volunteers Mark O'Sullivan, Martyn Black, Mark Parker, Graeme Colless, Tom Parker and Brian 'Hairy' Osborne

way they were welcomed into the Dunedoo community that made the biggest impact.

"We'd like to thank the community of Dunedoo," says Saad. "I've truly never met any kind of people like them and had never seen such a display of true Aussie spirit. The town really turned up and seeing the passion they had for the golf course was truly invigorating. I'd never been prouder to be a turf farmer."

## ACKNOWLEDGEMENTS

Turf Australia wishes to thank the following growers for their support of this project, led

by Paul Saad and Graeme Colless: Southern Cross Turf; Dad and Dave's Turf; Evergreen Turf; Hi Quality Turf; Dubbo's Turf the Lot; QualTurf; Jimboomba Turf; Australian Lawn Concepts; Signature Haulage; Dubbo Turf Supplies; Elite Sand and Soil; MC Haulage; A View Turf; Metro Turf Supplies; Empire Turf Supplies; and All Seasons Turf.

ATM thanks Turf Australia for allowing the reprinting this article. It has been adapted from an article titled 'Dunedoo Golf Course restoration tees off' in the Winter 2021 edition of Turf Australia Magazine. ☺



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*The RF Miles Reserve has been transformed into one of the premier sporting facilities in Frankston City Council*

PHOTOS: STEVE BROWN

# Miles better

*Evergreen Turf project manager Tim Bayard (CSTM) looks back at the recent transformation of RF Miles Reserve in Melbourne's south.*

**R**F Miles Reserve is the home ground of the Seaford Football Netball Club and Seaford Cricket Club. It's located in the southern suburbs of Melbourne, 40km from the CBD, along the eastern edge of Port Phillip Bay in Frankston City Council.

The suburban train line runs next to RF Miles Reserve, which was originally surrounded by large native banksia and radiata pines. The ground was utilised as a site compound during the Victorian Government's Level Crossing Removal Project. The local crossings and railway line were lifted to become an elevated rail line.

This necessitated the ground be closed and used as a site office for nearly three years while the construction works took place.

As part of the works, the facility would be reconstructed with new clubrooms, parking, sportsfield lighting, netball courts and cricket nets.

Evergreen Turf was engaged by Lloyd Group to reconstruct the field. (ETP Turf designed the field). Originally planned for 2019, delays meant construction didn't eventually start until May 2020.

The site is surrounded in a triangle formation by the new rail line, Seaford Road and Kananook Creek, which is tidal with Port Phillip Bay. The site had only one entrance off Seaford Road. Due to limited space next to the new building, the soon-to-be cut oval was being used as a car park for the trades.

Due to limitations for access and space, Evergreen Turf devised a way to continue

operating in tandem with Lloyd Group's building program. Once Lloyd Group commenced the cut for the new building site, the oval zones were left looking like "a natural sand quarry in Gippsland".

There was a need to utilise some of the sand on-site to back fill retaining walls and batters. However, the local sand was not conducive to being used as a turf profile as it was extremely coarse.

The first works consisted of cutting the subgrade for the perimeter spoon drain, centre concrete wicket and exposed aggregate path area on the southern end of the site. All this needed to be completed prior to any subgrade field cutting because the sand subgrade couldn't handle being disturbed and would lead to vehicles getting bogged.



PHOTO: NEARMAP

**RF Miles Reserve as it was in April 2016 (left), during the time of nearby level crossing removal works in September 2018 (second from left), surface construction in January 2021 (second from right) and the eventual finished oval in September 2021 (right)**

Then COVID-19 hit ... Restrictions ... Limited staff ... Limited work ... A trying time for all Victorians.

By the time Evergreen Turf completed its work, Lloyd Group had also finished with using its 50-tonne crane for the building that was also parked on the field area. As soon as Evergreen Turf had a clear run to work at the south end, the crew was able to cut the subgrade and place excess sand onto the existing sand stockpile from Lloyd's building works.

Evergreen Turf was then in a position to remove approximately 1500m<sup>3</sup> of native sand from site using truck and trailer by driving over trak mats on the field. (Yes, trucks were driving off the trak mats and getting bogged.)

As soon as Evergreen Turf cleared the excess material from site, it was able to continue the swale drain and exposed aggregate path on the eastern side as well as pour the goal and net post footings, plus the perimeter boundary fence.

Upon commencing with the 2.8m net footings, the team came across the water table just 700mm deep. So it had to change the design to larger box footings as recommended by the engineer.

The irrigation installation commenced, and again due to site access, Evergreen Turf could only complete two thirds of the ground as it still needed to get sand-profile volumes (6800 tonnes) from the only access point in the northern forward pocket. While the irrigation was being installed at the south end, a separate Frankston City Council contractor was constructing the new netball courts and enclosed cricket nets on the northern end, which required access from that part of the field.

With the south-end irrigation completed, Evergreen Turf gave the subgrade a final trim for the 'as built' sign off. Then it commenced a lay-flat drainage installation on the south end. The team changed from subsurface drainage to lay-flat system due to the restricted falls on-site as well as the high-water table and sandy subgrade.

Sand installation commenced in mid-January and after six days the team had the required volume of sand for the entire job. Approximately 1800 tonnes had to be pushed over the north end as soon as irrigation, subgrade trim, lay-flat drainage and all 'as built' had been completed. Due to access issues, Evergreen Turf hadn't been able to

work on the north end to install infrastructure, although it did install a concrete path, swale drain, perimeter fence, net poles and post footings.

While field works were undertaken, Evergreen Turf Landscaping completed the new landscape zones at the south and north ends. These zones comprised of approximately 1800m<sup>2</sup> of turf, retaining walls, exposed aggregate paths and about 6,000 native plants/shrubs and trees.

However, COVID-19 restrictions hit once again on the last day of sand trimming for the final surface layer. These restrictions delayed completing the Santa Ana turf installation by a week. After the five-day snap lockdown, the turf was laid within four days thanks to a great effort by the Evergreen Turf laying team led by Steven Bolt (on-site) and assistance from Australian Seed & Turf Farm for continual supply without delays.

## SUMMARY

The project presented many challenges, ranging from limited site access, a shallow water table, sandy conditions and working alongside the pavilion and netball court/cricket net contractors.

Construction methodology became the key factor in ensuring the successful outcome of the project. Another key was the flexible attitude by all parties to make design/construction changes in a timely manner.

The key learnings from the project were to be creative, adaptable and work collaboratively with all parties to ensure the project delivery was in accordance with the specification and contract timeframes. The project has been an enormous learning curve for all parties with the outcome being a fantastic community facility.



**The Seaford Football Netball Club and Seaford Cricket Club now have wonderful new facilities. Prior to the redevelopment, the ground was a site compound for the nearby level crossing removal**



**The new sportsfield lighting at RF Miles Reserve**

*If your bunkers have issues, an effective solution may be less expensive than you think*



# Making old bunkers new again

**B**unkers are often a source of golfer frustration but, whether you like them or not, bunkers are an integral part of golf and a feature that is not likely to go away any time soon. While bunkers can add strategic and aesthetic value to a golf hole, they can also be a source of dissatisfaction due to their placement, appearance or condition.

Bunkers are arguably the most dissected and disagreed upon feature of a golf course. The way a bunker should look and play is seemingly always up for debate. Simply put, there is no perfect or ideal bunker. There are opinions aplenty about sand colour, sand firmness, the best type of sand, and how the bunkers play at the course down the street – which always seems to be better than your course. Because so many factors vary from course to course, there will always be great debate over how they should look and play.

If golfers are becoming restless with the current condition of the bunkers at your

*Bunkers are often a target of golfer complaints and superintendent disdain. But that doesn't need to be the case long term as USGA agronomist Elliott Dowling explains.*



course, they have probably asked how the bunkers can be improved. The answer to this question is not always simple, and certainly varies from course to course. Before you consider an expensive renovation project, evaluate your bunkers and decide what ails them. This evaluation process may reveal that bunker condition and playability can be improved without expensive renovation efforts.

## EVALUATING BUNKERS

There are several criteria that can be used to evaluate the functionality of bunkers. Before undertaking a renovation of any sort, it is important to have a clear understanding of what the problems are in order to guide the path toward improvement. In some cases, expensive renovations have been avoided by properly evaluating bunkers and only correcting what is needed to solve the issue. To properly evaluate your bunkers, answer the following questions:

- Do the bunkers drain after a moderate or heavy rain?
- Is the sand contaminated with soil and debris?
- Does formerly white sand have a tan or off-colour appearance?
- How does the landform around each bunker look? Does it funnel water into or away from the bunker?
- Can your current bunkers be maintained for a reasonable amount of money and time?

*Clogged bunker drains cause serious issues. Companies can find and clear drains for you, or you can locate the clog and address the issue yourself*

- Are exposed edges leading to increased soil contamination?
- Is it too costly and time consuming to maintain a crisp edge around the bunkers?
- Do the bunkers have steep sand or grass faces that are difficult to maintain?
- What is the main source of golfer complaints about the bunkers?
- Do golfers say that the bunkers play too firm or too soft?

These are questions that must be answered before deciding on the best way to improve what you currently have.

### SOLUTIONS FOR COMMON BUNKER PROBLEMS

Most golf courses will look to the easiest and most cost-effective way to repair or improve anything on the course, bunkers included, and rightfully so. Spending too much money on things that aren't necessary could put the facility in a poor financial position.

To determine the least-expensive or most-efficient way to improve the bunkers, use the list of questions above to identify



the key issues. Once the main problems are determined, choosing the best path forward is easier. The following sections discuss several of the most common issues with bunkers and some options for addressing the problem.

### SAND CONTAMINATED BUT DRAINAGE SYSTEM FINE

When bunker sand is contaminated with soil or organic material, the bunkers often drain slowly or hold water, playability can be poor or the appearance could be better. If your bunkers have a drainage system and you have

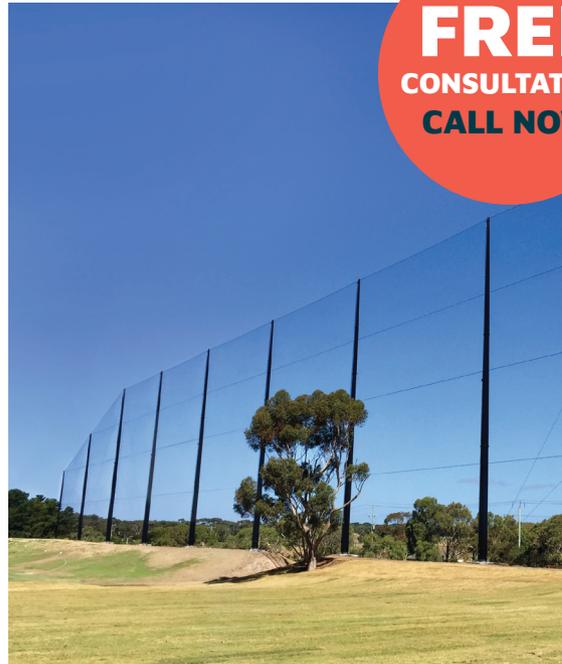
determined that it still functions properly by flushing water through the pipes, changing sand could be all that is necessary. Simply remove the contaminated sand and replace it with new sand that has desirable physical characteristics.

Selecting the appropriate sand is strictly up to the facility. For example, some facilities want bright white sand and are willing to pay a premium price to have that sand shipped across the country to their location. While this is a fine solution if you have the money and are willing to spend it on sand, many facilities try to



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*In the absence of functioning drainage, bunkers remain wet and will play firmer than desired. With heavy rain or irrigation, water may pond in bunker floors and require significant labour costs to restore normal playability*

choose sand that can be found closer to home for a more reasonable price.

Depending on your location, white sand could be available for a reasonable price. However, a local source for sand could be tan or brown, which is completely acceptable as long as the sand performs and plays as desired. Colour is just for looks and has no impact on the actual quality of a sand. Like most things in golf course management, there are specific criteria for determining a good bunker sand. Understanding these criteria will help you decide on a sand, which could be tan, which is a significant upgrade from what you currently have at a price you'd rather pay.

### **BUNKER DRAINAGE SYSTEM NOT FUNCTIONING PROPERLY**

One of the most common bunker issues is improperly functioning drainage. Drains can become clogged or crushed and lose their functionality. In the absence of functioning drainage, bunkers will remain wet and likely play firmer than desired. With heavy rain or irrigation, water may pond in bunker floors and require major labour costs to restore.

Superintendents can confirm if a drain pipe is blocked by slowing water movement and by flushing water through the bunker

drainage system or with the use of a camera and pipe snake. If the pipe is clogged, there are companies that use high-pressure water to blast through blockages and clean the perimeter of drain tiles, flushing away debris and returning the pipe to its original performance. This is the easiest method, albeit potentially expensive, to clean existing drains without digging.

If a blockage can't be cleared by flushing water through the pipes, you must determine where the blockage is and excavate the area, exposing the pipe. Great care must be taken to protect the existing sand, assuming you don't plan to replace all of it. Laying a tarp or similarly impermeable material on either side of the drain pipe allows for the excavated sand to be placed on that surface and subsequently replaced with little risk of contamination.

### **NO DRAINAGE SYSTEM**

Adequate drainage is a cornerstone of properly functioning bunkers. Without drainage, bunkers can hold water for extended periods, which reduces aesthetics, playability and the life expectancy of the sand. In some instances, the underlying soil drains well and bunkers function properly without a drainage system, but this is the exception.

If you are maintaining bunkers without drainage, you are basically holding a ticking timebomb. If they are not failing yet, it is only a matter of time. If the golfers at your course truly have lofty expectations for the look and playability of your bunkers, and they are without drainage, it is time to install drainage.

At a minimum, it is important that an adequately sized drain pipe is placed through the floor of each bunker in the lowest point possible. This pipe should be sloped to carry water out of the bunker and can be connected with the primary golf course drainage system or directed to daylight in an out-of-play area in accordance with any regulations. If you want to increase the likelihood that water reaches the drainage tile quickly and encourage drier sand throughout the bunker, a more extensive system of pipes will work better.

In most instances, without internal drainage, bunkers will perform poorly regardless of sand quality. On the other hand, bunkers with a functioning drainage system will still perform poorly if the sand does not meet minimum guidelines with its infiltration rate, which should be no less than 30 inches (76.2cm) per hour.

An important feature of bunker drainage design is including a cleanout port on the high side of the bunker. Exposing a pipe to the surface and covering it with a drain cap will allow a hose to be placed into the drainage tile to flush sediments or other obstructions from the pipe to improve functionality. A cleanout port also allows you to test whether your bunker drainage system is functioning properly if the bunker begins holding water.

### **DESIGN CHANGES NEEDED TO PRESERVE EXISTING BUNKERS**

Some courses are in the fortunate position to have both functioning drainage and clean sand, with no glaring issues yet. In this instance, sand contamination from sediment or organic debris is most likely what will initiate future bunker issues. Although it is impossible to keep all contaminants out of bunkers – like grass clippings and tree debris – looking at the architecture of the bunkers can help extend their life expectancy.

A specific area to consider is the edge or lip of the bunker. Many courses maintain a crisp vertical edge that requires several labour hours per bunker every month to maintain. Labour concerns notwithstanding, an exposed soil lip is an obvious source of contamination. Exposed bunker edges can easily deposit soil into the sand through rain, foot traffic or maintenance practices – like the edging required to maintain that sharp edge.

Slight architectural changes can reduce the amount of contamination that falls into the sand from the bunker edge. Rather than an



*Sand colour is not a good indicator of quality. There are tan sands that deliver comparable performance to white, engineered sands for a much better price*

exposed soil edge, wrap sod over the edge to cover the soil. This will reduce the amount of soil and rocks that fall into the sand. You can also rake the sand to cover the exposed edge, which will limit the amount of soil or debris that can enter the bunker.

In some instances, water moving into the bunkers from the surrounding topography is the source of contamination, not the bunker edge. Adjusting surface grades and drainage can deflect water around the bunkers, rather than through them, and reduce the number and severity of washouts that accelerate contamination and failure. Adjusting the shaping around bunkers does not need to be very invasive or expensive. In fact, very minor and seemingly simple modifications are all that are necessary to make a significant improvement in many cases.

## BUNKERS ARE FAILING BUT NO RESOURCES

Many courses recognise that their bunkers are failing, leading to playability concerns and dissatisfied golfers. However, because of limited resources they aren't able to replace the sand, install drainage or make architectural changes. There are still things that can be done to improve bunker performance.



*Bunkers are arguably the most dissected and disagreed upon feature of a golf course. The way a bunker should look and play is seemingly always up for debate*

One of the more popular methods to clean existing bunker sand is using a sand sifter. There are several effective options available to perform this process, ranging from more expensive machines to less expensive hand tools. The mechanical option is more efficient but certainly comes at a premium price when compared to hand tools.

If cleaning sand is not an option, either because the sand is too contaminated or because the process will be too time

consuming, adding a layer of new sand on top of the current sand can provide some relief – although very short-term relief and with mixed results. This method always appears to be the easiest and most cost-effective method to temporarily “fix” poorly performing bunkers. However, it is important to understand that adding a new layer of sand simply buries the problem deeper. Yes, this could buy you time, but how much and to what level of improvement is difficult to say.



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*The difference between lined (left bunker) and unlined bunkers is tremendous. Investing in liners yields more reliability and a longer life expectancy for the sand*

There is rarely enough sand added on top to make a big difference and a very light layer of sand is hardly enough to correct any problem. Money is often wasted by taking this approach because your investment in new bunker sand is almost immediately contaminated by the old sand, reducing its usefulness very quickly. If you continue adding new sand for several years you might realise you spent a lot of money achieving very little when that same money could have been spent on a more long-term solution.

If your bunker sand is so contaminated that it has started to look and play more like soil than sand, replacing the sand is inevitable. Until total replacement is possible, superintendents have found success using long tines on a mechanical rake to loosen the existing sand.

This approach is best if performed on a routine schedule because mechanically loosening sand will not be very effective as a one-time procedure. Plan on loosening the sand at least once per week, if not more frequently, depending on the level of contamination.

A somewhat more expensive option is using a venting machine like the Air2G2 to loosen sand particles. Other options to consider are applying wetting agents to the sand – to break surface tension and improve infiltration – or applying materials to break down surface algae that is negatively impacting performance. In theory, this will help return a white colour to the sand – if applicable – and improve water infiltration, but the results have been inconsistent in many cases.

### THE BUNKERS NEED TO BE COMPLETELY REBUILT

The principal purpose of this article is to help diagnose and remedy bunker issues with the most cost-effective measures possible for your facility. That said, if you want to fix bunkers in a way that has the longest life expectancy and highest chance of success then a total rebuild could be exactly what you need. Based on current technology and field experience regarding bunker construction, installing a liner – either a durable liner or a sod liner – is a good idea to keep native soil and rocks from migrating into the sand.



*Based on current technology and field experience regarding bunker construction, installing a liner – either a durable liner or a sod liner – is a good idea to keep native soil and rocks from migrating into the sand*

In my opinion, sand selection is less of a concern than a reliable liner. A sand that is manufactured and white or a tan colour will play equally well if it meets the same performance standards. On the other hand, keeping as much soil and organic debris out of the sand as possible will extend bunker life expectancy. Moreover, liners can reduce the severity and frequency of washouts following heavy rains, saving labour hours and maintaining cleaner sand. Ultimately, installing a durable liner to reduce sand contamination from the subsoil and keep sand on bunker faces will extend the life expectancy of your investment.

There is no doubt that liners, drainage and new sand will improve bunker performance and reliability, but they come at a premium price. Some courses feel that a total bunker renovation is their best choice and they might be right. Other courses, however, feel that correcting one factor outlined above – like drainage, sand or architecture – will fix their bunker problem without investing the same resources required for a total rebuild.

### CONCLUSION

Bunkers are often a target of golfer complaints and superintendent disdain, but that doesn't need to be the case long term. There are ways to address many common bunker issues – some more costly or time consuming than others – without necessarily performing a full-scale renovation. There are also many ways to improve bunkers with in-house labour and equipment. Don't be so quick to dismiss poorly performing bunkers and assume that the only fix is wholesale renovation. Use a checklist to determine the exact issue, or issues, and work through those issues to produce better playability and easier maintenance. A qualified agronomist can also help evaluate bunker issues and work closely with you to develop a customised plan for the course.

### ACKNOWLEDGEMENTS

*Australian Turfgrass Management Journal wishes to thank the USGA Green Section for allowing publication of this article. The original article, authored by USGA Northeast regional agronomist Elliott Dowling, appeared in the 4 September 2020 edition of the Green Section Record. 🙏*



*Soil is likely to break away from an exposed soil bunker edge, especially during rain. Soil that falls from the edge contaminates the sand*



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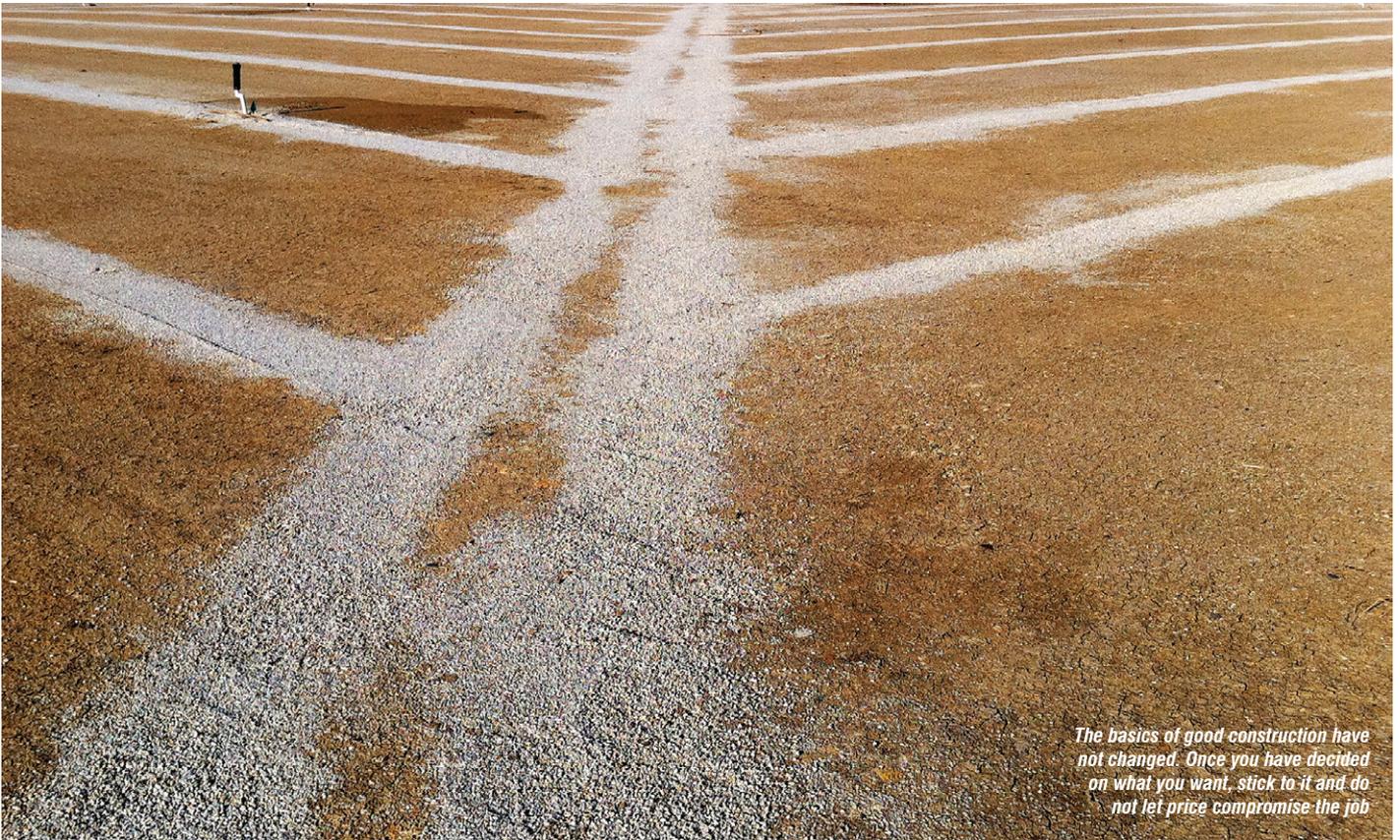


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*The basics of good construction have not changed. Once you have decided on what you want, stick to it and do not let price compromise the job*

# Best practice, best result

*As expert ATM columnist John Neylan writes, when it comes to a construction project it is vital to adopt best practice methods across the planning, design and construction phases to ensure an optimal outcome.*

**H**aving worked in the turf industry for over 35 years, it is definitely one of continually learning about what works and what doesn't and this particularly applies to construction projects. I have been involved in numerous construction projects over this time as the turfgrass agronomist, working with a range of disciplines including civil engineers, contractors, turf managers, sand suppliers and turf growers.

Over the past couple of years I have been working as a turfgrass agronomist with SPORTENG, a civil engineering company headquartered in Melbourne that specialises in providing technical advice for all forms of 'field of play'. Pivotal to the company's approach is not only understanding the specific design requirements for the field of play but appreciating how the facility will be constructed, operated and maintained.

Over the time that I have worked in the turf industry there have been many lessons learned with the most poignant fact being that the attention to small details will make for a successful and a relatively painless project. Since working with SPORTENG I have come to better appreciate the importance of experience, good design, detailed specifications and a methodical approach to understanding each site and each project. What follows are some of the key areas that need particular attention and some take home messages for any facility looking at undertaking a construction project.

## THE CLIENT BRIEF

Understanding the client's brief can often be the most challenging part of any project. If the requirements of the project aren't clearly defined it is very difficult to design to the brief. Many an hour can be wasted on a design that when it is presented to the client comes back

with the response of "that's not what we really want".

The client brief can also include some personal preferences including profile depth, soil type ("we don't want a sand profile"), grass selection and drainage layout. Many of the requests can be worked into the design, but some we know just won't work. The ability to discuss these aspects in a technical and methodical manner without embarrassing anyone is most important. If there are aspects of the brief and design that don't quite meet best practice, the client must be made aware of the possible ramifications.

**TAKE HOME MESSAGE:** *Take the time to truly understand the client brief.*

## UPGRADE OR NEW

Not all projects will be on a green field site and it will involve either an upgrade or reconstruction of an existing field. In this

scenario the options can be many as to how the field can be improved. In this situation there are two key questions:

- What are the current concerns?
- What is the desired outcome?

While these are relatively simple questions, it can take a bit of effort to tease out the answers and to gain a clear understanding of why the field is not performing and what is the standard of playing surface required. This links in strongly to understanding the client's brief.

With an existing field, a detailed site assessment is required and should include:

- Undertake a level survey.
- Assessing the existing soil conditions including the depth of the rootzone soil. This must include sampling and testing the soils to determine whether they can be reused.
- Measuring the depth of thatch/organic matter as this will affect the depth/volume of material that needs to be removed.
- Evaluating the irrigation system to determine whether it may be upgraded or a new system is required. This includes pumps, tanks, sprinklers and pipework.
- Identifying the turf species/variety and weeds.
- Identifying any key wear areas and localised depressions.
- If it is an old fill site, a geotechnical investigation will often be necessary to determine whether there is any soil contamination.
- Where possible gather the available information on the hours of use and the numbers of users.

Based on this information, it is then possible to decide whether the existing profile can be upgraded or whether a total rebuild is the best option.

**TAKE HOME MESSAGE:** *Understand what you are dealing with!*

## SUBGRADE CONDITION

The subgrade is the base on which the turf profile is constructed and whether it is a sports field, golf green or racetrack the integrity of that base is fundamental in achieving a successful outcome. Unstable, poorly compacted or reactive subgrades will often result in subsidence and localised mounding which will impact the integrity of the playing surface.

In the time that I have worked with SPORTENG there have been numerous projects undertaken on both green field sites and existing fields that have inbuilt problems which affect the formation of the subgrade including reactive clays, contaminated soils, uncompacted soils, saturated soils/high water table, uncontrolled fill and rock.

It goes without saying that it's important to know what you are building on. There have been many older sports fields built on old



**Understanding the client's brief can often be the most challenging part of any project. If the requirements of the project aren't clearly defined it is very difficult to design to the brief**

refuse dump sites and land that was too poor to put buildings on. It is only when the new profile is being constructed that contaminated soil, unconsolidated fill and localised water tables can be discovered.

Depending on the knowledge of the site, a geotechnical investigation is often warranted to determine the subsoil conditions. At the very least it may be required to dig out soft areas and replace with select fill. Where contaminated soils are detected and depending on the class of contamination, it may be required to lay an orange geofabric as an indicator that there are contaminated soils below.

On green field sites that have native clay soils, these soils can often be highly reactive. Reactive clay soil is a dense material that

changes in volume when it absorbs and releases moisture. This absorption and release occurs as seasons change throughout the year. When it's warm and dry, reactive clay soil releases moisture and contracts. In cooler, wetter periods, reactive clay soil takes on moisture and expands.

On sports fields in particular, the expansion of the clays appears to be the main problem where there will be localised mounding in the playing surface as the soil expands. Installing a capping layer consisting of a non-reactive material is often required so that a stable platform can be formed on which to construct the turf profile.

The only viable solution in many situations is to install a capping layer and then building a perched water table profile using flat drainage panel technology so there are no intrusions into the capping layer. There are obviously cost implications where reactive soils occur including the cost of the capping layer and the necessity of installing a gravel drainage layer.

The other problem associated with reactive soils is where drains are trenched through the reactive soil which then results in compromising of the drains as well as the localised expansion of the soil and localised irregularities in the playing surface.

**TAKE HOME MESSAGES:** *Research the local geological conditions and the history of the site (e.g. was it a tip). Undertake geotechnical investigations and be sure to communicate with the client.*

## PLANNING

Committing time to planning is the key to success for any project or program. As obvious as it sounds, there are many examples of where projects are rushed and there is insufficient time committed to sitting, thinking, discussing (arguing), producing a draft of the plan and specifications, reviewing and then



**Understand what you are dealing with. With an existing site, a detailed assessment of soil conditions, including sampling and testing, is critical to determine whether they can be reused**



*It goes without saying that it's important to know what you are building on. Where contaminated soils are detected, it may be required to lay an orange geofabric as an indicator that there are contaminated soils below*

finalising. Being time poor is an often quoted problem for turf managers, however, when it comes to a new project time must be set aside to plan thoroughly, exploring all the things that could go wrong and the possible constraints on the project.

Many projects have an 'impossible' timeframe and an unrealistic expectation of the end product within the constraints of the due by date. This seems to be the way of modern life and can only be dealt with through detailed planning.

It is always advisable to look at the preferred date of completion and work backwards, firstly to see what time of year the turf is likely to be laid and the earliest date the project can feasibly start. For example, having to plant warm-season grasses in winter is not

going to help if the field has to be ready for the start of the cricket season. If an earlier start date is required it may mean that the user groups will have to vacate before the end of their season. Communication is key in working the client through the likely outcomes and the restraints.

**TAKE HOME MESSAGE:** *Review the 'completion date' and then work backwards. Is the timeframe achievable?*

## SPECIFICATIONS

The specifications and documentation for any project are crucial to the outcome of that project. The specification is a detailed set of requirements to be satisfied by the materials, design, product or service. A specification is a type of technical standard that sets the

parameters within which the project must operate. The more detailed the specification in terms of materials and process, the less opportunity there is for shortcuts to be taken. It is also important to note that in times of dispute the specification will be the primary reference point when determining responsibility.

The specification must have a set of hold points at which the quality of work and materials are checked before works can proceed. These may be:

- Completion of base works;
- Installation of drainage (including trenching, gravel and pipework);
- Irrigation system installation;
- Gravel and rootzone installation (including properties); and
- Turf establishment.

The great weakness of any specification is how the project is then managed and adhering to the specification and the hold points.

**TAKE HOME MESSAGE:** *The specifications must clearly detail the process, the testing requirements and the hold points.*

## CONSTRAINTS

Every project will be subject to some type of constraint whether it is known at the time of planning or occurs unexpectedly once the project commences. The constraints that have appeared in recent projects that I have been involved with include reduced supplies of the correct gravels and sands, environmental impacts, rock and/or contaminated soils, poor water supplies, turf quality and conflicting advice from regulatory authorities.

These types of constraints are not new, however, taking the required time to assess the site of the project and thoroughly investigating each of the important elements means that you will be forewarned and then better able to plan.

**TAKE HOME MESSAGE:** *Be prepared for contingencies. Stop, review and advise.*

## SANDS AND GRAVELS

In several areas of Australia the ability to source the appropriate sands and gravels is becoming more difficult. As pits become depleted or there are demands for materials by other industries, the specific needs for a turf project can be difficult to achieve.

It is not only sourcing the appropriate materials that meet the specification, but also ensuring that the volume of material of consistent quality can be provided. If you are responsible for sourcing the gravel and sand, the process involves;

- Specifying the physical and chemical parameters of the sand and gravel;

*On reactive soil sites, installing a capping layer consisting of a non-reactive material is often required so that a stable platform can be formed on which to construct the turf profile*



- Collecting typical samples;
- Testing the prospective materials in an accredited laboratory and then deciding on the best source.

Once the materials are selected, the preferred samples become the benchmark for the project. These benchmark samples are then the reference point for all future samples taken as part of the quality control process.

Testing throughout the project can be a challenge if the materials begin to drift outside of the agreed envelope. A problem that I have noted is that some material suppliers either do not understand the precise nature of the specification for turf projects or underestimate their ability to deliver materials of consistent quality throughout the project. In deciding on the supplier of materials it must include discussions with the supplier in terms of their understanding of the specification and whether they can deliver the tonnage required.

Many sands that the turf industry deals with are processed sands that may involve particle size manipulation through washing, sieving and blending. Blending materials can often be problematic, particularly where the characteristics of the raw materials are not clearly understood. Small movements in the silt and clay content in particular can have a dramatic effect on drainage and moisture retention. Consistency is the key.

If a principle contractor is employed to undertake the works it is not always possible to control the source of the materials. However, it should be requested that the contractor nominates the source of the materials and to provide a capability statement from the supplier in terms of experience and processes employed (including internal testing).

**TAKE HOME MESSAGE:** *Do not compromise on quality.*



*The more detailed a specification is in terms of materials and process, the less opportunity there is for shortcuts to be taken which can create problems further down the line*

## WATER SUPPLY

Water is the limiting factor for many new projects. For example, a new golf course is likely to be remote from a secure water supply and will eventually be relying on stormwater collection, recycled and bore water and rivers.

The key questions are: is the water readily available, what infrastructure needs to be put in place to get the water to the site, what permits are needed and are there any environmental constraints?

Almost invariably the water supply is left to last and the volumes required are grossly underestimated, particularly during the construction and establishment process. When multiple areas on a site are being worked on and juvenile turf being established, there can be a substantial strain on the water source.

**TAKE HOME MESSAGE:** *Securing a sustainable water supply must be at the top of the list.*

## CONTRACTORS AND SUBCONTRACTORS

Selecting a contractor can be a stressful process, particularly if they are unknown and do not necessarily have a proven track record. A few points to consider and questions to ask include:

- What projects have they undertaken and the size of the projects?
- What is the expertise of the staff employed?
- What equipment do they have?
- What subcontractors do they use (e.g. irrigation, grow-in)?

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- Check out each company's work.
- Interview prospective contractors and quiz them on the processes they employ.

From recent experiences, contractors tendering for work will often come up with alternatives for the construction of the profile, drainage layout, grassing options and irrigation. An experienced and well-credentialed contractor can value add to the project and well-considered alternatives should be considered. However, if you have planned the project thoroughly and there are particular elements that are important to you, don't compromise.

Tender review is an interesting process and on large projects an experienced project manager can be useful in working through all of the elements and deciding if the costs quoted for each component are realistic. Prices that are at odds with what you may expect them to be or are dramatically different to other tenders could be due to:

- A genuine mistake;
- Misinterpretation of the specification;
- Reflects poor quality materials;
- Complexity of the work; or
- The profit margins are too high.

Again the specification is very important in creating tight parameters that the contractors must work within when pricing the project. If there are discrepancies ask for clarification.  
**TAKE HOME MESSAGE:** *The cheapest price may not provide the intended outcome.*

## GRASSING

The quality of the turf and its establishment is both the most exciting part of the project and the most exasperating. The specification must describe the quality requirements of the turf, sprigs and seed, how they are to be established and maintained.



*Whether grassing involves solid turf, sprigs or seed, a high level of fertility is essential. Regular fertilising with N, P and K is required to ensure recovery from transplant shock and the generation of root systems, stolons and rhizomes and to promote strong shoot growth*



*Washed turf certainly avoids any problems with contaminating the rootzone with incompatible soils, however, can provide a challenge especially when being laid and established during hot weather*

In my experience the quality and consistency of the turf can vary, particularly if it comes from different farms. The most likely variables are that the turf is not necessarily the variety specified and the condition of the turf is poor (i.e. variations in turf density, health, thatch, weeds, purity etc...). The end product can be a patchwork effect with some areas establishing more quickly than others and then there is the variation in the appearance of the surface.

The delivery of turf during hot weather can be a major challenge and must be on the truck for the minimum amount of time, delivered over night or early morning and laid immediately (and watered). Turf during hot weather can increase in temperature quite dramatically and will invariably result in scald marks and turf loss.

Washed turf is used extensively on sand profiles and during hot weather it can provide considerable challenges. While it seems incredibly obvious, water is the absolute key to success. As soon as the turf is laid it must

be watered and watering by hand is strongly advised. During the first week or so the turf and underlying sand must be kept moist at all times and it is imperative the irrigation system is capable of providing the required amounts of water.

Washed turf certainly avoids any problems with contaminating the rootzone with incompatible soils, however, turf with a compatible soil backing does assist the establishment process. Even a thin layer of a compatible soil type will assist in retaining moisture which reduces the problems of transplant shock.

Whether grassing involves solid turf, sprigs or seed, a high level of fertility is essential. From recent experiences the fertility can drop off very quickly, particularly on sand profiles. Regular fertilising with nitrogen, phosphorus and potassium is required to ensure recovery from transplant shock and the generation of root systems, stolons and rhizomes and to promote strong shoot growth. On most sand profiles, a base of a controlled release nitrogen source will provide a buffer against leaching losses, however, the quick-release fertilisers are considered to be more effective during the establishment process.

**TAKE HOME MESSAGE:** *It is essential to inspect the turf farms supplying the turf and the sprigs. Reject poor quality turf as it will set the project back and closely monitor the establishment process.*

## HANDOVER

When to take over the completed works is a vexed question. Do you take it over as soon as possible or allow the contractor to maintain the turf until it is ready for play? There is no straight answer, however, in my experience the sooner the greenkeeping staff take over the turf management the quicker a playable surface is developed. Once the turf is planted/laid/seeded there can at times be a relaxation in the intensity of work, particularly if the contractor does not have a dedicated and experienced turf management team.

Allowing the turf management team to take over the works early often provides the opportunity for more of the 'fine-tuning' processes to be employed such as reducing cutting heights, increasing mowing frequency, dethatching and dusting that may not be reflected in the specifications for the grow-in period.

## CONCLUSION

The basics of good construction have not changed. A detailed specification, thorough planning, selecting the correct materials and attention to detail are some of the key elements to a successful outcome. Once you have decided on what you want, stick to it and do not let price compromise the job.☺

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PETER McMAUGH AM

# Natural vs **synthetic**

*ATM expert columnist Peter McMaugh delves into the natural turf vs synthetic turf debate and some of the concerns surrounding the rise in synthetic field installations.*

In early May the Public Spaces Division of the NSW Department of Planning, Industry and Development facilitated a series of open space and synthetic surfaces workshops. The department employed Ethos Urban to run three workshops (two face-to-face and one Zoom) with advocates for synthetic turf and scientists active in the turfgrass industry present at the meetings, including yours truly.

The meetings were restricted to 25 people and most of the invitees were from local councils and sports user bodies. The two-hour meetings comprised a roundtable discussion focussing on a number of areas;

- How local fields were used (e.g.: formal or informal recreation) and the positives and negatives of such usage;
- The impact of increased adoption of synthetic sports surfaces within the community;
- What factors inform councils in their decision-making processes when it comes to upgrading and or selecting a surface type;
- What practices are currently in place to manage fields within local council areas and whether they could be improved; and
- Alternative technology solutions and/or management techniques available to increase grounds usage.

While there were inevitable late starts, there was no overrun time and the effective discussion time was a bit less than 90 minutes. Senior public servants from the department were at the meetings but deliberately did not take part in the discussions. The day after the sessions were run, a survey was sent out to the attendees.

In the week prior to the 4 May meeting, one of the Greens MPs David Shoebridge organised a webinar at which Drs Mick Battam and Scott Wilson spoke about natural turf and some of the problems with synthetic turf. This was an important webinar because it highlighted how research into problems arising from synthetics is strangled for funds, while the NSW Government has been handing out grants worth millions of dollars to councils to install synthetic turf fields.

Natural turf has never received any funding from the NSW Government for upgrades to fields or for research into how to build and better maintain natural turf fields. While it does support stadium constructions, community fields have an empty begging bowl.

The impetus for most of these grants is the assumption that natural turf fields are incapable of the workload that is being asked

of them. This assumption is quite wrong. The data produced by the purveyors of synthetic turf about natural turf fields was not only completely wrong, but also highly misleading in the way it was presented.

The claims that 10-15 hours per week is the total a natural grass field can cope with is a total fabrication, when we have factual data which shows natural fields being used without excessive deterioration for 49 hours per week. And even more is possible!

There is a real problem with how data is collected in this area because what is used currently is booked hours by user groups. Not only do these vary in size, but they do not reflect the casual use often by young children kicking a ball around. There is a huge difference in wear rates from sprigged shoes of an 80kg man (and bigger) compared with flat shoes of 30kg children.

What is really needed to check use rates is either human clipboard surveys and/or surveillance camera recording use over a defined period. As soon as you raise this, a council, knowing it costs money, will not be willing to pay for it.

Without having accurate data you cannot effectively argue any case. These surveys also need to be done several times a year so that seasonal influences can be factored into the equation. All of this makes the case for natural fields easy prey for the synthetic cause. Once they get the ear of the fields manager for councils and the councillors themselves, then the case for natural turf becomes much more difficult to present.

## INSIDIOUS PROBLEMS

Apart from the mythical case for long use hours, the other very big selling point to council is much lower maintenance costs.

This too is mythical if the attention to proper detail is applied. There are certainly instances, well recorded, where annual costs have been suggested as being as low as \$60,000 per field per year when the reality comes in at \$250,000/year. Even a high quality turf facility in the community area comes in at about \$280,000/year/field. These costs will also be quite variable because no two natural fields have anywhere near the same input requirements unless they are side by side on the same site.

The only reliable costing of the full life costs of a synthetic field compared with a natural field has been done by Dr Paul Lamble who besides being a very well credentialed scientist also has a commerce degree. These have been done in two ways:

- Comparing construction costs and maintenance costs in \$m/ha for full life;
- The maintenance costs in \$K/unit of carrying capacity.

What is very interesting about this data is that in both cases there is about a 400 per cent difference in the higher cost of synthetic turf over well-maintained natural turf.

Excessive cost is not their only problem. The real unsolved elephant in the room is disposal at end of life. This point was made again and again by those using the synthetics. The purveyors of synthetics say with confidence 'We are working on this and we are near a solution'. This has been their manta forever. It is always 'The next generation is far superior and will solve those problems'. There have been at least five generations and the problems stay the same.

Now there are even more insidious problems, some from the crumb rubber (mainly recycled tyres) infill, but more so the microplastic particles from the wear on the



PHOTO: NEARMAP

*Synthetic turf has become increasingly popular for use on council sporting fields in recent years, but there are significant concerns within communities about its use and some of the problems they inherently create*

*In recent years the NSW Government has handed out grants worth millions of dollars to councils to install synthetic turf fields, but little in the way of resources to help natural turf surfaces perform better*

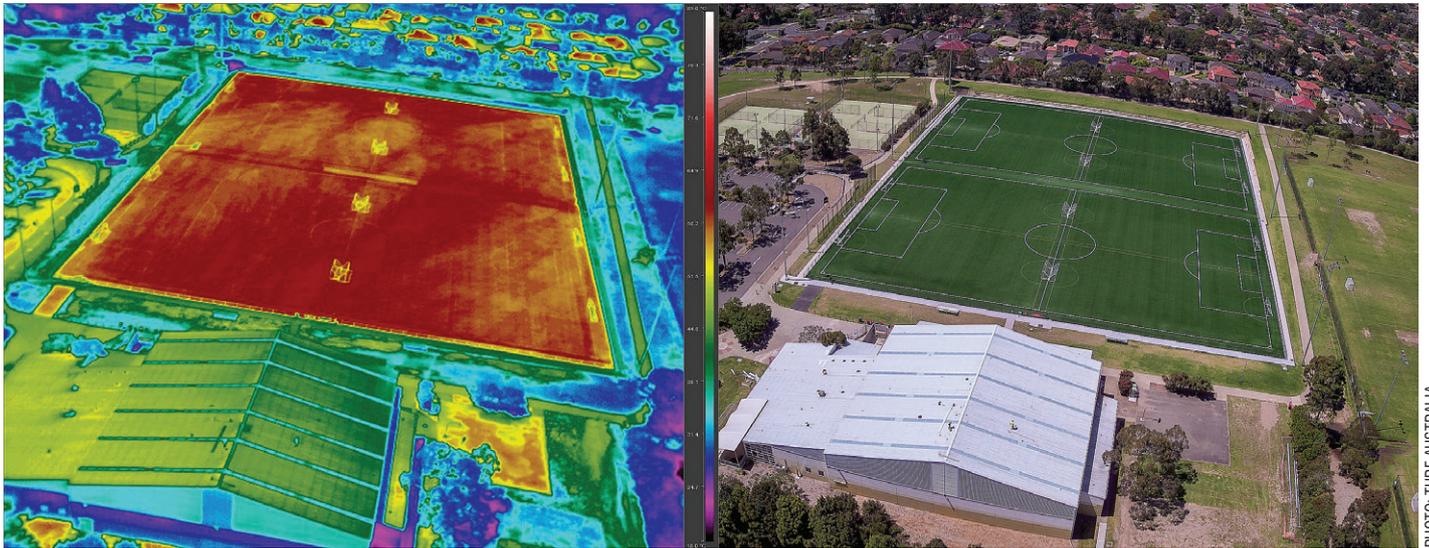


PHOTO: TURF AUSTRALIA

**Thermal imaging clearly shows up the extreme differences between a synthetic field and natural turf surface temperatures**

fibres themselves which wash into the drains and then the ocean. This is in addition to the already very serious insidious problem of the shedding of microplastics from clothing and many other sources. Dr Scott Wilson's research programme at Macquarie University on this is strapped for money.

The councils answer to this is, 'Now that we are aware of the problem we have improved the filters in our drains to nullify the problem'. All I can say is that you need very special filters to deal with microparticles and the cost of these is huge if you are going to be really effective. Sanitising the fields, especially if they are open to dog walkers, is also another serious and costly problem.

Bad as all these aspects are, by far the worst problem is that they become heat sinks that are inherently extremely dangerous to the point of being life-threatening. The fact that they are inherently so dangerous that they could cause heatstroke and death is

something the proponents want to sweep under the carpet. In any other industry WorkCover would make it illegal to use the field. Yes, it does happen, say the synthetic proponents, but we can cool them with water. So that makes them slippery and increases danger of injury from that side.

On a 38°C day, natural turf will have a temperature around 36°C. By contrast, synthetic turf at shoe height will be as much as 68°C and at shoulder height 54°C. By way of comparison, a bitumen road would be 66°C! There are many recorded examples of children with blistered feet walking on it in shoes and where the synthetic soles on playing boots have melted on synthetics. At the NSW Football Centre in Blacktown, there is a synthetic field which the elite players refuse to train on in the heat.

To get the use levels that the purveyors say is possible with synthetics, you have to use them at night with the lights on. I

was fascinated to hear from councils that in practice every high use venue whether natural or synthetic has lights. These lights create their own problems, because they are mostly designed to illuminate the central playing strip rather than the whole venue (especially on dual use venues). This means that areas other than the main strip which could be used for training and lesser community use, remain untouched, increasing the load on the main strip. On natural fields they also attract insect pests to the fields.

During the discussion most of the councils vigorously denied the research that shows the increase in injuries that occur on synthetics. I found this very interesting because all the elite players I have heard speak about their preference for natural turf over synthetics quote injuries and fatigued legs because the surface is hard.

### RESOURCES, RESEARCH NEEDED

During the summing up process there was certainly general evidence of areas where natural turf could not survive, such as heavy shade areas under trees which persists all day through winter. The consensus was that synthetics do have a place but that it is limited. It was also interesting to hear that community use of synthetic fields increased greatly when organised sport ceased because of COVID-19 control bans. This was especially true for dog walking but not for mothers with prams meeting on synthetics.

I felt very strongly that the way the discussion was channelled that one of the main purposes of the meetings was to justify the historical decision of the government encouraging the use of synthetics through financial grants, and big ones at that. There

*Elite players regularly speak about their preference for natural turf over synthetics because of injuries and fatigued legs due to a hard and abrasive surface*



PHOTO: MIKKEL BIGANDT/STOCK.ADOBE.COM

was little time to discuss how to get natural turf to perform better than it does at present.

There is, however, an increasing drive by water authorities, mostly so far in regional areas, to see how they can get the best value out of their water use on community fields. This is not a recent problem; it has in my 56 years in turf been a perennial problem.

When City Parks in Canberra introduced automation and soil moisture sensor control into their playing fields, they cut water use immediately by 50 per cent. Water is such a precious commodity and it will become more so in the future that all water authorities are very serious about using it in best practice ways.

One of the first and most important decisions that any council can make is to get rid of kikuyu out of their parks because it can use as much as 10 per cent more water than couchgrasses. While we look at the evidence for this, we are also uncovering the fact that couchgrasses can present well at as little as 40 per cent of ET if their growing medium is at optimum levels for oxygen/water ratios.

We already know that some couchgrasses perform better than others under water stress and wear and that the major reason for this is the presence of a high rhizome volume. There is also the question of root volume. The closer the internodes are in stolons and rhizomes the greater the root volume to explore larger and deeper voids of soil.

When Dr Peter Martin started teaching turf courses at Sydney University he did a

frequent student exercise on my Qualturf farm at Richmond looking at root depth in the silty loam soils of the lowlands area of the Hawkesbury River. At depths of 3m white active couch roots could still be found.

How efficiently a plant uses water is extremely important because it is the driver of plant extension. The natural vigour of a plant

why they have high staff turnover and that is another factor which makes it hard to keep high quality maintenance programmes active. I know of one council north of Sydney where their budget is \$900/ha/year.

Fortunately there are currently a number of trials of grasses in progress at venues covering different climatic experiences. These will be

*“By far the worst problem with synthetics is that they become heat sinks that are inherently extremely dangerous to the point of being life-threatening”* - Peter McMaugh AM

and the extent of its vertical growth compared with its lateral growth is supremely important in recovery from heavy use.

In the experimental work I have been doing over the last three or four years, I have overwhelming evidence that in general the hybrid *C.dactylon* x *C.transvaalensis* have very poor rhizome production both in number and length. Moreover, their growth habit is predominately vertical. This is why they develop excessive thatch.

Back to the councils, and one of the outstanding things was their general ignorance of current research findings and their reluctance to change their practices. Their comfort zone seems to be quite small. Their overall budgets are, by any standard, pitiful and this in turn means that their pay levels to staff are very low. This is part of the reason

invaluable in showing the potential of new grasses to change things for the better.

It is very obvious from the way the councils spoke that the current government grants scheme for improving community participation is not working and requires a major overhaul. What the industry also needs is further education opportunities for their senior staff as well as the lower echelons. All of this requires resources such as long-term grass plots which again costs money. If the money tree can't grow to accommodate this then we are going to stay for a long time in an unhappy place.

The government grant to Willoughby Council of \$10 million for one large field at St Leonards would be sufficient to set up a chair at a university to give the education stimulus the industry needs. When will the 'natural turf fairy godmother' arrive? 🙏

## FIRST SYNTHETIC TURF GUIDELINES FOR NSW

On 10 October 2021 the NSW Department of Planning, Industry and Environment announced that the use of synthetic surfaces for sporting fields and public open space is being investigated by the NSW Chief Scientist and Engineer, to help inform the state's first guidelines on the use of the product.

The announcement came as the NSW Government released the Synthetic Turf Study in Public Open Space (pictured), an initial report that outlines the potential social, environmental and economic impacts, benefits, and limitations of using synthetic turf as a replacement for natural grass in public open spaces. Minister for Planning and Public Spaces Rob Stokes commissioned the study in response to community concerns about urban heat, and environmental and social impacts of synthetic surfaces.

“Synthetic turf has become increasingly popular for use on sporting fields in recent years,” says Mr Stokes. “But there are significant concerns within the community



about its use and councils need consistent guidelines that address the pros and cons.

I have asked the NSW Chief Scientist and Engineer to further investigate the impacts, and any alternatives that can be used in our parks and public spaces to support development of the state's first set of guidelines.”

The initial report recommends:

- Providing consistent state-wide guidance to councils and industry in the planning, design and management of synthetic surfaces in public spaces;
- Reviewing the planning process to ensure the views of the community inform decisions regarding the use of synthetic versus natural turf surfaces; and
- Further research on the human health and natural environmental impacts, such as urban heat island effect, microplastics, use in bushfire-prone areas, social implications and surface alternatives.

To view the Synthetic Turf Study in Public Open Space visit [planning.nsw.gov.au/policy-and-legislation/open-space-and-parklands/synthetic-turf-study](https://planning.nsw.gov.au/policy-and-legislation/open-space-and-parklands/synthetic-turf-study).



*Students at Kalgoorlie's Goldfield Baptist College now have one of the best turf ovals in town thanks to a recent upgrade*



# Turf oval gold

*ATM columnist John Forrest looks at the recent project undertaken by Goldfields Baptist College in Kalgoorlie to transform its once poor-performing sports oval into a new green oasis.*

**R**egional centres in Australia thrive on sport and one of the challenges is the cost of building and maintaining suitable facilities. It can be difficult determining how to move forward, with the important ingredient being long-term sustainability.

Kalgoorlie is located in the Goldfields in Western Australia, 595 kilometres east-northeast of Perth with a population slightly over 29,000. The climate is more often than not hot and dry from late spring through to mid-autumn (see Table 1 for Kalgoorlie's long-term temperature and rainfall averages). Water has been in short supply in recent years as a result of very little rainfall, with the long-term average rainfall of 264mm per year.

This year got off to a good start with 96.4mm falling in February (78mm of that in one dump), filling up the water storage dam which was virtually dry. Winter was consistent with about 97mm falling from June through to August, while October has been a good month as well with 26mm.

Servicing the township are a number of primary and secondary schools. Goldfields Baptist College is a private school for prep to Year 12 students and has been a part of the local community since 2000. Originally housed in temporary accommodation on the grounds of the Kalgoorlie Baptist Church in the centre

of town, the college grew steadily until its current site was purchased from the City of Kalgoorlie-Boulder near the local airport.

For a number of years the college had a sports oval that struggled for turf coverage. This was a result of poor irrigation uniformity, lack of maintenance programming, poor soil characteristics and elevated salts from the recycled water supplied by the local sewage treatment plant.

After years of dissatisfaction, the school board decided to audit the irrigation system as well as cost an oval upgrade. Mark Stillwell, the college board's deputy chair, put his hand up to project manage the development, one which would give students a badly needed area where they could play sport and keep active. During hot summer days, having a natural turf oval would also help cool the immediate environment, a big plus in a location such as Kalgoorlie.

## ASSESSMENTS

A number of important initial assessments were undertaken prior to the upgrade beginning. These included measuring the size of the proposed site, investigating the suitability of the soil on site, irrigation system performance, water quality testing and the likely impacts of high evaporation rates through the warmer months. Designing and constructing turf

facilities in Kalgoorlie is challenging due to the hot summers and recycled water supply which has high levels of sodium and chloride.

The existing irrigation system was tested for uniformity and application requirements reviewed. The watering window was found to be a major problem and was far too long to be sustainable. Results of the testing ultimately showed a system that was not capable of supplying the water to maintain the proposed playing field.

Water quality assessments also showed up some concerns. The recycled water supply has an adjusted sodium adsorption ratio (adj SAR) of 9.7, a pH of 7.9, sodium at 254ppm and chloride at 370ppm. Throw in high evaporation rates and going forward water management will play a defining role in the ongoing condition of the new oval. One bonus was the three 60,000-litre fibreglass water storage tanks that had already been installed on site to supply the existing irrigation system. These were connected to the recycled water source that is organised and controlled by the City of Kalgoorlie-Boulder.

## IRRIGATION SYSTEM

The new irrigation system for the college was designed by Elliotts Irrigation. Stations ran across the ground parallel to the school to allow for runtime adjustments depending

on wear from the students. Immediately next to the school buildings, where students are most likely to play during lunch and recess, turf will be subjected to more wear and have a higher water demand. Areas furthest from the buildings, such as those near the practice cricket wickets, will not require the same recovery and water application can be reduced.

Annual water budgets were calculated on a Crop Factor of 60 per cent to enable forecasts to be made for future water costs. The recent installation was Stage 1 of the project, with a second stage being considered in the future if demand for a larger playing surface is needed. As such, the mainline was run to the perimeter of the Stage 1 work area along with 2-wire control for future expansion.

Like so many areas in Australia, temperatures in late spring can fluctuate. Kalgoorlie can experience several days in the low 20s before jumping up into the mid to high 30s. As such, establishment irrigation programmes needed flexibility to meet turf requirements while not over or under watering. To assist the college's gardener Brian Quick, catch cups were used to determine actual outputs per minute in order to provide a starting point in the calculation of runtimes.

The area nearest the school has 120 Hunter sprinklers and on the playing field itself there are 125s. Results enable data to inform how many millimetres per hour is being delivered to the ground. From there the system could be set up to meet 60 per cent evapotranspiration rate as a starting point. The SDS Signal controller is ideal to make adjustments quickly and efficiently as required.

As with many school gardeners, their role includes turf maintenance as well, so being proficient in managing the school oval is important. With water being the major



**Prior to the upgrade the sports oval had continually struggled with turf coverage, a result of poor irrigation uniformity, lack of maintenance programming, poor soil characteristics and elevated salts from the recycled water supply**

management factor going forward for the new oval, the school is to purchase a hand-held moisture meter to enable Quick to quickly and effectively determine moisture levels and adjust irrigation application rates accordingly.

## SOIL PROFILE

Soil samples were taken from 10 locations across the ground where it was indicated that turf could be planted for both Stage 1 and 2 works. The areas that the samples were taken were also filled with water as an in-situ trial to see if the water drained. Kalgoorlie's low rainfall and a soil that contains a higher than ideal percentage of fines makes for an interesting contrast.

The existing soil under compaction had a hydraulic conductivity at 32 drops providing

close to 0mm/hr drainage. A local soil supplier, Kalgoorlie Soil & Gravel Supplies, had a supply of sand that was a big improvement on the existing profile and 1425m<sup>3</sup> of topsoil sand (to a depth of 150mm) was used to finish the surface. Due to the slower infiltration rate of the subsoil and the finer particle size, there may be some perching at the interface of the two soils and on the rare occasion when there is enough rainfall creating a zone that does not dry out too quickly.

Concerns about the seed bank were addressed by taking the top 50mm of soil off the surface which also removed the existing patchy turf coverage and the old irrigation system. The surface was then deep-ripped to a depth of approximately 200mm and five tonnes of gypsum incorporated.



**Thorough assessments of the irrigation system, water quality and site soil characteristics were a critical part of the planning process for the new ground**



PHOTO: NEARMAP

Above: Aerial photo showing the oval upgrade area

Left: Regular aeration, maintaining calcium levels, regular surface flushing and the use of penetrants will assist in the management of the new surface going forward

TABLE 1: KALGOORLIE LONG-TERM AVERAGES

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Max Temp (°C)	33.6	32.1	29.5	25.3	20.7	17.6	16.8	18.7	22.4	26.0	29.1	32.1
Mean Min Temp (°C)	18.3	17.9	16.1	12.8	8.7	6.3	5.1	5.8	8.1	11.3	14.2	16.7
Mean Rain (mm)	27.2	32.4	25.5	20.0	25.1	27.1	23.9	21.3	13.3	15.7	18.8	16.3

Source: Farmonlineweather.com.au

Once surface levels were obtained by local earth moving contractor Ground Masters, the irrigation system was installed. After the excavation of the trenches there were too many rocks in the soil, so trenches were backfilled with the topsoil sand. After the irrigation had been installed, the topsoil was brought in and levels were finished close to concrete path height, meaning the turf would finish 10-20mm above the paths to ensure the mowers would not hit the concrete.

The original area that had irrigation installed was big enough to fit a single soccer pitch which can be a minimum of 90 metres long and 45 metres wide. In this case a pitch 90m x 50m (4500m<sup>2</sup>) was identified for grassing with kikuyu.

Greenacres Group supplied the turf and contractors travelled up to Kalgoorlie to lay it. The total amount of solid turf required, including the area closest to the school buildings, was just under a hectare (9600m<sup>2</sup>).

### GREAT ASSET

Stillwell and his team at the college have done a great job in managing the oval upgrade project. Kalgoorlie is like many mining locations in WA where getting local contractors can be difficult. The earthmoving and sand supply companies were both local and worked well together. The irrigation and turf companies were both from Perth and programming them all to meet the completion timeframe was critical to ensure the ground was down before the hot weather arrived.

Moving forward and maintaining the new-look oval in its first year will be very important. High sodium and chloride irrigation water will create challenges with a soil that has slightly more fines than ideal. Aeration, maintaining calcium levels, having regular flushing irrigation events and using penetrants will play a key role in ensuring an optimum surface is maintained.

Now that the oval has been completed, it has totally changed the school micro-environment. It is another example of the benefits that natural turf surfaces provide, helping to not only improve an environment but keeping students fit and healthy, both physically and mentally.



Left: Deputy school board chair Mark Stillwell (left) project managed the oval upgrade, with school gardener Brian Quick now managing the new surface

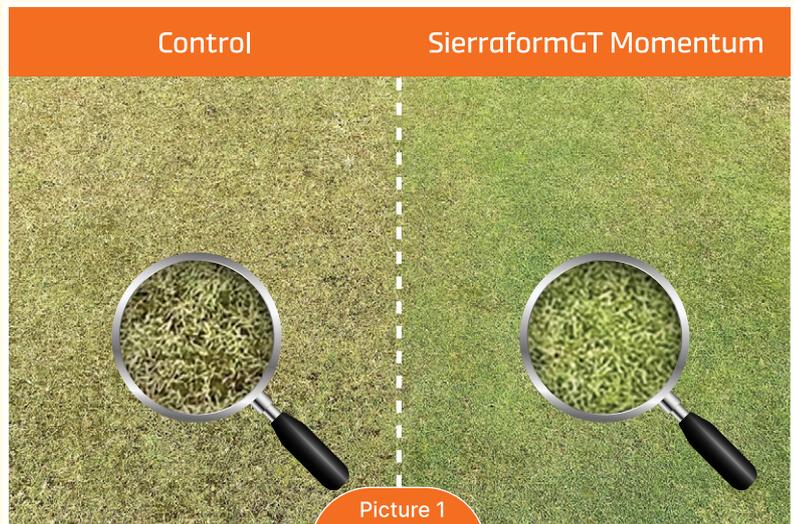
Above: Healthy root system one week after laying

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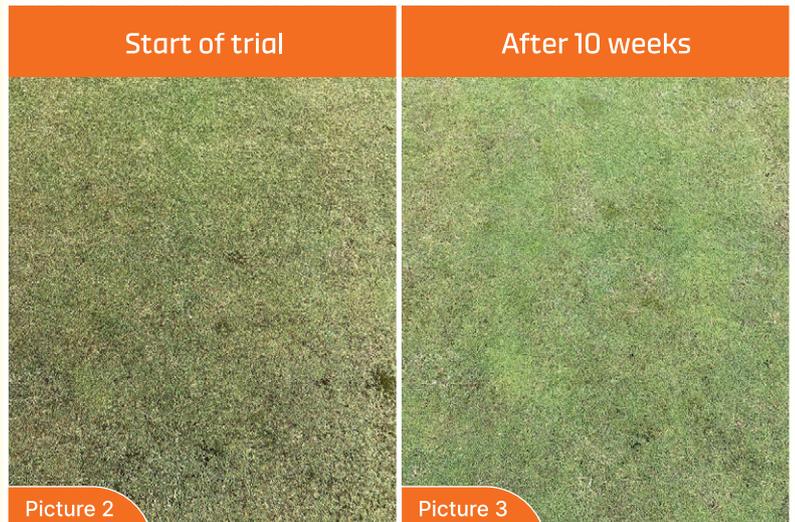


### SierraformGT Product Trial

Picture 1 (below) shows the positive effects that two applications of Sierraform GT Momentum has on turf colour, turf quality and turf density on a Creeping bentgrass (*Agrostis stolonifera*) green 10 weeks after initial application and 2 weeks after follow-up application.



Picture 2 and 3 (below) shows the increase in turf colour, turf quality and turf density over the 10 week trial period on the same plot of Creeping bentgrass. Picture 2 & 3 also shows that the plot treated with Sierraform GT resulted in a significant reduction in algae growth and algae cover over the 10 week trial period.



SierraformGT	Analysis
Spring Start	16-0-13.3-Fe+Mn
Momentum	22-2.2-9.1+1.2Mg+TE
Preseeder	18-9.6-4.1
K Step	06-0-22.4+1.2Mg+TE
AntiStress	15-0-21.6-+Fe
All Season	18-2.6-14.9+1.2Mg+TE
NK Greens	19-0-15.8+1.2Mg+TE



STA Victoria recently funded a trial to assess the efficacy of various herbicides for the removal of perennial ryegrass from an established couch grass sward. Pictured are the plots 11 days after the September treatment

# In transition

Throughout 2020, the Sports Turf Association of Victoria engaged AGCSATech to conduct a trial to assess various chemical options for the removal of perennial ryegrass oversown into a couchgrass surface. Senior agronomist



Bruce Macphee provides a summary of the key findings.



Throughout the southern and temperate regions of Australia, perennial ryegrass (*Lolium perenne*) continues to be one of the most popular turfgrass species utilised for winter sports turf surfaces.

Within these regions, the summer periods are often hot and dry, more suited to growing warm-season grasses such as couchgrass (*Cynodon dactylon*) and kikuyu (*Pennisetum clandestinum*). However, the cooler months see warm-season grasses go into varying degrees of dormancy due to reduced ambient and soil temperatures. During winter, this loss of colour, reduced growth rate and lack of recovery potential can result in the deterioration of warm-season grasses. This is most obvious in high traffic areas such as goal mouths, ground access points and centre corridors.

On many premier and tier one municipal sporting facilities, ryegrass is utilised to overseed warm-season grasses which

provides an actively growing surface which can protect the couchgrass throughout the cooler months. This improves both turf recovery and visual aesthetics. Overseeded playing surfaces also present well for television and spectators.

As temperatures increase during spring, the ryegrass is then chemically removed or allowed to transition out naturally as warm weather and soil temperatures increase the stress on the ryegrass. The natural decline in the ryegrass and the improved couchgrass growth results in a transition back to couch.

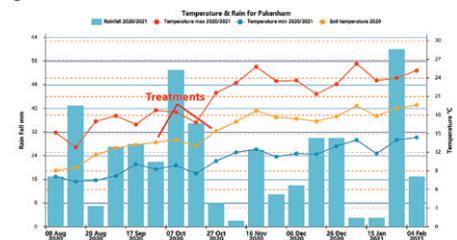


Figure 1. Temperature, rainfall and soil temperature data for the duration of the trial. Treatment applications (September and October) highlighted in red

The Sports Turf Association (STA) of Victoria funded a trial to assess the efficacy of various herbicides for the removal of perennial ryegrass from an established couchgrass sward. The objective was to provide information on the most effective options for ryegrass removal and the ideal timing for the transition back to a warm-season surface for summer sports. There are several herbicides registered for the selective removal of perennial ryegrass (C<sub>3</sub>) from couchgrass (C<sub>4</sub>) surfaces.

The trial was established at Evergreen Turf, Pakenham (southeast of Melbourne) in January 2020 with Santa Ana hybrid couchgrass installed using solid turf which was allowed to fully establish prior to being oversewn with the ryegrass.

## TREATMENTS

The treatments consisted of seven herbicides and an untreated control with three replicates of each treatment. The treatments were divided into an early application (September) and a

GRAPHIC: COURTESY OF SYNGENTA

TABLE 1. TREATMENTS AND RATES

	Product	Group	Label rate	Comments
T1	<b>Destiny</b> (Idosulfuron-methyl)	B	150g/ha	Addition of surfactant
T2	<b>Coliseum</b> (Rimsulfuron)	B	120g/ha	Addition of surfactant
T3	<b>Monument</b> (Trifloxysulfuron sodium)	B	225ml/ha	Addition of surfactant
T4	<b>Tribute</b> (Foramsulfuron)	B	1.5L/ha	Addition of surfactant
T5	<b>Tribute/Destiny</b> (Tank mix)	B	As above	Addition of surfactant
T6	<b>Kerb</b> (Propyzamide)	D	2.3L/ha	Watered in after application 12mm of irrigation
T7	<b>Crowbar</b> (Dichlofop-methyl)	A	2.5L/ha	Addition of surfactant
T8	<b>Untreated Control</b>	-	-	Couchgrass not oversown

later application (October) to gauge if there was an optimum timing for treatment.

Ordinarily, applications may be applied several weeks earlier in Melbourne, however, soil temperatures were still below 13°C well into October. Half of each plot received wear to replicate regular use and determine if this influenced the performance of any treatments. Treatments used in the trial, along with rates, are in Table 1 above. All products were applied according to label rates and directions.

The trial plots were oversown in April 2020 with a blend of perennial ryegrass varieties at a rate of 300kg/ha. The ryegrass was allowed to fully establish and was maintained according to industry standard practices.

## WEATHER

Temperature, rainfall and soil temperature data is shown in Figure 1. Key points to note regarding weather conditions throughout the duration of the trial include:

- Significant periods of rain and cool temperatures in early October 2020 kept soil temperatures low well into October, slowing the emergence of couchgrass from dormancy.
- Rainfall totals for October were above average in all areas of Melbourne.
- Temperatures throughout spring were generally cooler than average.

## ASSESSMENTS

The following assessments were undertaken as part of the project:

- **Control efficacy:** The effect on ryegrass was assessed based on damage to the plant, loss of colour, loss of leaf and reduction in density. A 0-9 rating system was used, with 9 being severe injury, no green colour and complete kill of all ryegrass, 5 being minimum effective result for control of ryegrass and 0 being no visible damage or loss of turf.

- **Turf quality:** This was assessed as a visual estimate integrating uniformity, density, health, texture, colour, growth habit and presentation as a sporting surface. Turf quality scores were based on a 0-9 rating, with 0 being of poor uniformity, vigour and health, 5 being a good quality acceptable surface and 9 being excellent quality, highly uniform in vigour and growth habit.
- **Percentage of couchgrass present:** This was a visual estimate of green, actively growing couchgrass. Ratings were on a 0-9 scale with 0 being no couchgrass visible and 9 being 100 per cent couchgrass coverage. These were also compared to the control plots which were left as 100 per cent couchgrass.

## RESULTS CONTROL - SEPT TREATMENT

The following are observations made at various intervals following the first treatment made on 29 September 2020 (see Table 2). At 11 days after treatment (DAT), the effects of most treatments were clearly visible, with Crowbar the slowest to show signs of ryegrass control. Treatments with wear tended to show greater effects when compared to unworn treatments. No long-term benefit was shown. At 21 DAT, there was no significant difference between treatments, however, all treatments were showing significant effect.

At 30 DAT, there was still no significant difference between treatments, but there had been some slowing of herbicide effects due to the cool conditions. At 60 DAT there was no significant difference between treatments and ryegrass had been effectively controlled in most treatments.

## CONTROL - OCTOBER TREATMENT

The following are observations made at various intervals following the second herbicide treatment made on 23 October 2020 (see Table 3). At 21 DAT there was no significant difference in treatments, although Kerb, Crowbar and Tribute were initially slower to react with ryegrass. At 30 DAT, all plots appeared to have gradual transition to couchgrass as soil temperatures increased. Herbicide effects were less noticeable with increased couch activity, with a more gradual

TABLE 2: RYEGRASS CONTROL - SEPTEMBER (DAT)

Treatment	11 DAT	21 DAT	30 DAT	60 DAT
Monument	5.0	7.7	8.0	8.7
Destiny	3.3	6.7	6.0	8.0
Tribute/Destiny	5.0	7.3	7.7	8.0
Coliseum	4.0	7.3	5.7	6.7
Tribute	2.7	5.3	6.0	6.7
Kerb	3.0	7.3	7.3	6.3
Crowbar	0.7	4.0	4.7	5.0
LSD (<0.05)	1.9	NS	NS	NS

Key: DAT – days after treatment. 0 = no control, 5 = minimum acceptable control, 9 = total control

TABLE 3: RYEGRASS CONTROL - OCTOBER (DAT)

Treatment	21 DAT	30 DAT	60 DAT
Monument	4.3	8.3	8.3
Tribute/Destiny	5.3	8.0	8.3
Destiny	5.3	8.0	7.7
Tribute	5.7	7.0	7.7
Coliseum	5.0	7.7	7.3
Kerb	3.3	5.3	6.3
Crowbar	3.3	6.3	6.3
LSD (<0.05)	NS	1.1	NS

Key: DAT – days after treatment. 0 = no control, 5 = minimum acceptable control, 9 = total control



Plots at 21 days after the September treatment

TABLE 4: TURF QUALITY (SEPTEMBER)

Treatment	PRE-TREAT	11 DAT	21 DAT	30 DAT	60 DAT	70 DAT	80 DAT
Coliseum	4.7	5.0	3.3	4.3	5.7	7.0	7.3
Crowbar	4.3	5.0	3.7	5.3	5.3	6.3	7.3
Tribute/Destiny	5.0	5.7	4.3	5.0	6.0	6.3	7.3
Destiny	5.0	5.0	3.7	4.7	6.0	6.3	7.0
Tribute	4.3	4.7	3.3	5.3	6.0	6.0	7.0
Control	2.3	2.0	2.0	5.0	6.7	7.0	7.0
Monument	4.3	4.7	3.7	4.7	6.0	6.7	6.7
Kerb	5.0	5.3	3.3	5.0	6.0	6.3	6.7
LSD (<0.05)	1.2	0.9	NS	NS	NS	NS	NS

Key: DAT – days after treatment. 0 = poor uniformity, vigour and health, 5 = good acceptable surface, 9 = excellent quality

melting out of the ryegrass. By 60 DAT, all herbicides had effectively removed the ryegrass with no significant difference between treatments.

**TURF QUALITY**

Turf quality measurements are presented in Table 4. Some of the key observations regarding turf quality were;

- While there was a noticeable drop in turf quality 11-21 days after the first treatment (29 September), turf quality quickly improved as soil temperatures increased and couchgrass developed.
- There was some variation in turf quality due to the time various chemicals took to take effect based on cold weather and slowing of effects.
- There was no significant difference in turf quality once soil temperatures increased and couchgrass commenced growth.
- Turf quality in couchgrass control plots under moderate wear was poor but quickly recovered once growth commenced.

- No chemical treatment had a significant effect in reducing overall turf quality.
- Ryegrass was shown to improve overall turf quality and protect couchgrass from wear damage.

**PERCENTAGE OF COUCH PRESENT**

Tables 5 and 6 show the results for percentage of couchgrass present for the September and October wear treatments. Recovery of couchgrass coverage was slow in some treatments, particularly plots which were subjected to wear. Slow recovery was attributed to low temperatures during spring rather than the effect of any treatments, with soil temperatures still below 20°C until January 2021.

**CONCLUSIONS**

From all the data gathered during the trial, the following points can be concluded;

- All Group B herbicides were effective with no significant difference between treatments.

TABLE 5: PERCENTAGE OF COUCH (SEPT WEAR)

Treatment	11 DAT	21 DAT	30 DAT	60 DAT	70 DAT	80 DAT
Control	6.0	7.7	9.0	9.0	9.0	9.0 <sup>a</sup>
Monument	3.3	6.3	7.3	8.3	9.0	8.7 <sup>ab</sup>
Tribute/Destiny	3.0	6.7	7.7	8.0	8.3	7.7 <sup>bc</sup>
Destiny	2.7	5.7	6.3	7.0	7.0	7.3 <sup>cd</sup>
Kerb	3.0	6.0	7.0	6.3	7.0	7.3 <sup>cd</sup>
Tribute	3.3	5.7	5.0	6.0	6.3	7.0 <sup>cd</sup>
Coliseum	3.0	6.0	5.7	5.0	5.7	6.7 <sup>d</sup>
Crowbar	2.0	3.3	4.0	5.0	4.7	6.3 <sup>d</sup>
LSD (<0.05)	1.2	NS	1.8	2	1.4	1.2

Key: DAT – days after treatment. 0 = no couchgrass visible, 9 = 100 per cent couchgrass coverage. Values in 80DAT column with same letters are not significantly different

TABLE 6: PERCENTAGE OF COUCH (OCT WEAR)

Treatment	PRE-TREAT	11 DAT	21 DAT	30 DAT	60 DAT	70 DAT
Control	6.0	7.7	9.0	9.0	9.0	9.0 <sup>a</sup>
Monument	1.7	2.0	3.7	6.0	7.7	8.7 <sup>ab</sup>
Destiny	1.7	3.0	3.7	6.3	7.7	8.7 <sup>ab</sup>
Tribute/Destiny	1.3	2.3	3.7	6.0	7.3	8.3 <sup>ab</sup>
Tribute	2.0	2.0	3.3	6.3	7.7	8.0 <sup>bc</sup>
Coliseum	2.0	3.3	3.3	6.7	7.3	7.3 <sup>c</sup>
Kerb	1.3	3.0	3.0	5.7	7.7	7.3 <sup>c</sup>
Crowbar	1.3	2.0	3.0	5.0	6.3	7.3 <sup>c</sup>
LSD (<0.05)	0.9	1.5	1.3	1.0	0.9	0.7

Key: DAT – days after treatment. 0 = no couchgrass visible, 9 = 100 per cent couchgrass coverage. Values in 70DAT column with same letters are not significantly different



Plots at 21 days after the October treatment



Plots at 30 days after the October treatment

- Timing of applications had no significant difference on the efficacy of treatments.
- Monument or the Tribute and Destiny combination gave the quickest ryegrass control results with effective control being achieved 30 days after treatment.
- Both Kerb and Crowbar are not registered for removal of perennial ryegrass in couchgrass turf. Non-turf registered herbicides were included in the trial to assess suitability for removing ryegrass. The use of these herbicides does not infer that they should be used in this manner.
- Some recovery of ryegrass was observed with Kerb.
- Resistance issues should not arise with ryegrass control due to the oversown ryegrass being a new crop each year.
- Wear appeared to hasten the initial effects of several of the herbicides.
- No herbicide significantly reduced overall turf quality.
- Transition was less noticeable with later treatment as couch was coming out of dormancy.
- It should be noted that oversowing creates detrimental competition for couchgrass and areas of poor couchgrass coverage prior to overseeding are likely to result in poor transition in spring and the requirement for turf replacement.

**ACKNOWLEDGEMENTS**

This trial was funded by the Sports Turf Association of Victoria, with Evergreen Turf providing space at its Pakenham farm. Syngenta, Bayer and Turf Culture are thanked for the supply of product for the trial. ATM wishes to thank STA Victoria for allowing publication of this research. 

## VEGETATIVE COUCHGRASS TRIAL UPDATE

**A**GCSTech's vegetative couchgrass trial being conducted at Sorrento Golf Club on Victoria's Mornington Peninsula has come through winter well and plots are starting to move as the weather and soil temperatures increase.

Several frosts during autumn and soil temperatures down below 10°C saw turf lose colour for much of the winter, however, it has been promising to see many varieties continue with strong rhizome development throughout the cooler months.

The trial has been monitored for early growth and green up in the past months as the weather improves. All varieties were established from sprigs and with the cooler than expected summer last year, all varieties have yet to achieve full coverage. It is expected there will be significant growth once soil temperatures increase.

Once fully established, wear will be applied to a section of each plot to assess wear tolerance and recovery. Towards the end of summer, irrigation will be turned off to assess drought tolerance and recovery.

There are a wide range of couchgrasses within the trial with varying textures, which



*All varieties were established from sprigs. With a cooler than expected summer last year, all varieties have yet to achieve full coverage but are starting to move now temperatures are warming up again*

may be suited to a range of sporting surfaces. The results, as they come through, should provide turf managers with some vital information on how each of these varieties perform within Melbourne's climate and which variety may be most suited to their particular application.

There are also a range of zoysia observation plots within the trial site which have also persisted throughout the winter

period and are starting to move. These grasses will also be observed over the summer period for suitability in the Melbourne climate. Look for regular updates as the trial continues to develop this summer.

– Bruce Macphee, AGCSATech



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*Scott Harris, Superintendent, Narooma Golf Club*

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# Buffalo's **blight**

*Recent research undertaken by  
the University of Queensland has  
helped the turf production industry  
to better understand the distribution  
and frequency of mosaic viruses in  
buffalo grass paddocks across the  
country.*



**Y**ellowing in buffalo grass has been impacting turf farmers across Australia, particularly in the eastern states, for several years. A strategic turf industry levy-funded project, titled 'Identification and management of mosaic viruses and secondary pathogens in buffalo turf (TU19000)', exploring the causes of the disease has recently concluded. Leading the research project was Dr Andrew Geering from The University of Queensland who says that buffalo grass yellowing is no simple beast.

"Buffalo grass yellowing is enigmatic to say the least," says Dr Geering. "Farmers across the country have tested many different control methods to stop the yellowing with varying levels of success. The focus for us was to identify exactly what was causing the yellowing, so we set off on a tour of 27 turf farms across New South Wales, Queensland and Western Australia. Surveys in Victoria were unfortunately curtailed by the COVID pandemic due to state border closures."

Dr Geering and the project team hypothesised that buffalo yellowing was caused by different types of virus, mainly panicum mosaic virus (PMV) and sugarcane mosaic virus (SCMV), but also sought to identify any previously unrecognised viruses.

The most damaging and widespread of the viral pathogens that was detected across the farms surveyed was SCMV, which was present in all three states visited but most prominent in New South Wales. SCMV was found on all seven farms that were surveyed in the Hawkesbury Valley, one of the state's primary turf production areas, and on two out of three farms in the Hunter Valley.

In some paddocks, the incidence of SCMV infection approached 100 per cent and all major buffalo grass varieties were affected. Symptoms of SCMV infection in buffalo grass were obvious, with strong leaf mosaic patterns, narrower leaf blades and shortened internodes. "Our observations also suggested that plants weakened by SCMV were also more susceptible to fungal leaf spots and root rots," says Dr Geering.

The same strain of SCMV was also found in blue couch (*Digitaria didactyla*), crabgrass (*Digitaria sanguinalis*), Sabi grass (*Urochloa mosambicensis*) and Rhodes grass (*Chloris gayana*). Genetic analyses suggested multiple introductions of SCMV into buffalo grass from these alternative hosts rather than a single introduction and then dispersal through the trade of turf.

Diagnostic tests were also done for Bermuda grass latent virus (BGLV), which causes viral lethal necrosis of buffalo grass in the USA when present as a mixed infection with SCMV. While BGLV was not detected in buffalo grass, it was found in a green couch plant collected from a turf farm in south



**Sugarcane mosaic virus (SCMV) was the most damaging and widespread of the viral pathogens detected (pictured is Sir Walter)**

east Queensland. This is the first time BGLV has been recorded outside of the USA and demonstrates that the two agents responsible for lethal necrosis are present here in Australia and pose a threat to the buffalo industry.

PMV had a much more restricted distribution than SCMV, as it was only found in one buffalo grass cultivar in the Hawkesbury Valley, but in affected paddocks was at a very high incidence. Unlike SCMV, the analysis suggested just the single introduction of PMV into Australia and localised dispersal within the Hawkesbury Valley. "PMV is the cause of St Augustine Decline in the USA and therefore priority should be given to preventing further spread of this virus beyond its current restricted distribution," says Dr Geering.

A new virus called *Stenotaphrum nepovirus* was also discovered and found to be very common in all three states, but the economic significance of this virus was unclear

as symptoms were not always apparent.

Interestingly, a related virus causes the disease 'barley yellows' in Europe and symptoms of this disease are only sporadically expressed.

Virtually all farmers were unaware of the presence of plant viruses in their turf and had not implemented any control actions. Although some farmers implemented crop hygiene practices, mainly to prevent cross-contamination of turf varieties, none of these were adequate to prevent spread of the viruses.

Dr Geering says that the curious case of buffalo grass yellowing was compounded even further because many cases of 'buffalo grass yellows' could not be attributed to PMV, SCMV or any other of the aforementioned viruses.

"Poor root health was a second cause of yellowing in Queensland and New South Wales and a new species of curvularia was frequently isolated from the rotting roots,"



**Poor root health was a second cause of yellowing in Queensland and New South Wales and a new species of curvularia was frequently isolated from the rotting roots**



Yellowing associated with root rot and leaf spot

explains Dr Geering. “Some of the older literature suggests that overuse of nitrogen fertilisers, and the build-up of thatch, favour epidemics of fungus.”

It was observed that this type of yellowing often began from the turf ribbons remaining from the previous crop, giving a ‘train-track’ pattern of yellowing.

“In a perfect world yellowing would be attributed to one cause but the reality is much more complex,” notes Dr Geering. “Not only is yellowing caused by a range of pathogens it can also be caused by several other factors like nutrition, crop hygiene and water stress.”

## MANAGEMENT PRACTICES TO PREVENT BUFFALO YELLOWING

Accurate diagnosis of the cause of each case of buffalo grass yellowing is the key to successful management. There is no cure for plant viruses, so containment and eradication are the only options. And because eradication

is difficult without completely destroying the crop, containment practices are the most effective tools for farmers to use.

Mower blades should be decontaminated using high pressure hoses to dilute inoculum to below levels that cause infection. However, the virus is only completely inactivated through use of 1% commercial bleach. Additionally, turf should be mowed only when dry to minimise sap-contamination of the mower blades.

For yellowing caused by fungi, Dr Geering recommends a series of management practices to help reduce yellowing.

“Growers should consider cultivating the paddock after harvest, green manuring (e.g.: with Caliente mustard) and replanting from shredded stolons, rather than allowing regrowth from old turf ribbons, as methods to prevent yellowing,” says Dr Geering.

“Increasing carbon-nitrogen ratios in the soil will also likely reduce buffalo grass yellowing caused by fungal pathogens and at the

same time have other benefits for soil health. Growers should avoid poultry manures and minimise nitrogen applications to reduce the build-up of fungal pathogens.”

Soil, plant and irrigation water tests will also help prevent yellowing caused by non-disease related factors. For example, buffalo grass yellowing in Western Australia often is related to nutrition and can be resolved by applying soluble iron and manganese fertilisers. Yellowing associated with grass clippings could be prevented by sweeping or vacuuming of the paddock after mowing.

## BIOSECURITY MEASURES

Both PMV and SCMV, the two viruses which most commonly cause buffalo yellowing, can be easily spread from one turf farm to another. Therefore growers should be vigilant when importing turf, particularly from other states including New South Wales, the only state where PMV has been found and where SCMV is most common. Inspections of turf moving between states should be carried out at both the point of departure and arrival.

## NEXT STEPS

There is no panacea for the yellowing of buffalo grasses seen throughout the country. Rather than a disease in and of itself, it’s a symptom of several discrete diseases caused by viruses, fungi or simply poor management practices. Nevertheless, the impact of diseases like PMV and SCMV can devastate individual turf farms and has the potential to further impact the broader industry. Growers who notice yellowing should seek to have their turf tested immediately to identify if the issues are caused by a virus. If this is the case, urgent measures should be taken to contain the virus.

## ACKNOWLEDGEMENTS

This project was funded through the Hort Innovation Turf Fund using the turf R&D levy and contributions from the Australian Government. ATM thanks Turf Australia for allowing publication of this research. 🌱



Sugarcane mosaic virus

## Management of buffalo grass yellowing

Yellowing is a very common disease symptom in grasses, caused by many independent agents. It is important to get good diagnostic advice before applying any treatments. Some common causes of buffalo grass yellowing are described below.

### Viruses

Sugarcane mosaic virus has become very common in some turf farming districts, and all major buffalo grass varieties are susceptible to this virus. Perfection mosaic virus, the cause of St Augustinegrass Decline, is less prevalent and appears mainly a problem of specific varieties in the Hume/Sunbury Valley.

How to tell if your crop is suffering from viral infection

Viral infection is characterised by strong leaf mosaic patterns, narrower leaf blades and shortened internodes. Viral infections can only be properly diagnosed using laboratory tests.

### Managing viral infection

- Once a plant is infected with a virus, there is no chemical cure. Prevention is paramount and to eradicate, infected plants must be killed using a herbicide.
- Replant badly affected paddocks using certified, virus-free turf. The paddock should be followed for 3 months prior to replanting to ensure all living grass is removed.
- To prevent spread between paddocks, mowers blades should be decontaminated using high-pressure water hoses. It is important to remove residual sap on the mower blades.
- Mow when dry to minimise sap-contamination of the mower blades.



Perfection mosaic virus



## Management of buffalo grass yellowing

### Fungi

An undescribed species of *Curvularia* has been consistently isolated from plants suffering from a second form of buffalo grass yellowing. *Curvularia* epidemics are favoured by excessive use of nitrogen fertilisers, prolonged moisture and humidity and the build-up of thatch.

How to tell if your crop is suffering from fungal infection

The same type of *Curvularia* can cause brown leaf spots and root rotting. Severe cases of buffalo grass yellowing are associated with poor root health, and the roots of affected stolons are blackened and easily break when the stolon is pried from the mat.

### Managing fungal infection

- Monitor soil fertility levels using the testing services of an accredited laboratory, and adjust fertiliser program accordingly.
- Green manuring with Caliente mustard mixes improves soil health by increasing carbon levels and acting as a bioluminant.
- Replant with shredded stolons rather than allowing regrowth from old turf ribbons
- Some fungicides may be effective

### Abiotic factors

Yellowing can be caused by abiotic factors such as high salt levels in the irrigation water, micronutrient deficiencies and superheating of the grass caused by layers of grass clippings.

How to tell if your crop is suffering from other factors

Negative diagnostic tests for pathogens will confirm if yellowing is caused by unrelated issues.

### Managing abiotic yellowing

- Soil, plant and water tests should be performed to identify deficiencies and act accordingly
- Sweeping or vacuuming paddocks after mowing can reduce yellowing

This factsheet has been developed in consultation with Drs Andrew Geering and Nga Tran at The University of Queensland under the Hort Innovation strategic ‘turf’ funded project. Identification and management of mosaic viruses and secondary pathogens in buffalo turf (TU2000).



Buffalo grass yellowing with *Curvularia* infection



*Curvularia* yellowing associated with root rot and leaf spot

## KEY POINTS

- Buffalo grass yellowing is caused by several different factors including viruses, fungi and turf management practices.
- Each cause of buffalo grass yellowing has different risk factors and management practices.
- Infection by viruses was a major cause of yellowing in New South Wales.
- Root health issues were a secondary cause of yellowing in all states.
- More research and resources are required to continue to fight buffalo grass yellowing.

A fact sheet has been produced for turf growers detailing the best approaches to combatting buffalo yellowing

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Woodend Golf Club northwest of Melbourne has received local council funding to undertake a re-wilding project to enhance the course surrounds. Pictured is Woodend's signature par three 11th



# Re-wilding Woodend

*Kate Torgersen looks at the project to re-wild Woodend Golf Club northwest of Melbourne and the positive impact it will have on flora and fauna as well as the local community.*

**A**nnabel Sides is a resident in the Macedon Ranges north west of Melbourne who has a passion for future-proofing sport. During one of Victoria's many COVID-enforced lockdowns, Sides approached me to say the local council had a grant opportunity that would be perfect for golf courses within that shire. I knew straight away this could be a fantastic opportunity to showcase the key environmental benefits of golf.

Sides is founder of Green Planet Sport, a regenerative sport consultancy business that offers advice to create a clear path to climate action through the development of bespoke purpose projects, grant finding and grant-application writing. A childhood spent farming and a lifetime in sport has been the foundation

for Sides to establish the company. Her aim is for sport to be involved in tackling climate change and to build a better future for sport, children and the planet.

We have all witnessed the impact of the ongoing global pandemic on community sport. Throughout long lockdowns, the effects on the physical and mental health of golf club members and the wider community, in particular young people, has been significant.

It is hard to believe that as sport meets the challenge to 'build back better' post pandemic, that it is not the pandemic that will be the biggest challenge sport will face this decade. The biggest challenge will be climate change and the associated complexity of disruptions within our natural, social and economic ecosystems.

Adapting now to the challenges that courses and clubs will face ensures a future where they can continue to deliver play and manage the disruptions with less impact on financial security of the club, jobs, nature and the health and wellbeing of club members and the wider community.

This article aims to focus in on one action – re-wilding – that brings health to and fosters resilience in the land, waterways, wildlife and people that call their golf course home. If the world's golf courses focus some time on land use, then that's a positive for the planet.

## THE STORY SO FAR

Woodend Golf Club in the Macedon Ranges is taking up the challenge to future proof its course by embarking on a series of

activities to become more sustainable. In 2020 the Macedon Ranges Shire Council and consultants created the *Woodend Region Climate Change Action Plan - Cool Changes 3442*.

When the shire's community funding scheme was announced for 2020, Sides saw an opportunity for sports clubs to apply within the environment stream to pilot the region's first Green Sport Action plan. As a member of Woodend Golf Club, Sides contacted secretary Barney Hearnden, which led to the creation of a collaborative grant application titled, *Future Proofing Woodend Golf Club: A Green Sports Action*. The application was successful.

The club subsequently engaged Environmental Golf Solutions to create an environment master plan (EMP). Sides provided in-kind support for action planning, member surveys, partnership development and future proofing sport planning.

On paper this sounds formal, complex and somewhat overwhelming. In reality, the consultants take the complex elements away. They create the maps, the plans, the plant lists and the activity ideas for greatest impact. This leaves the golf community to focus on the project's bones that make long-term success possible: the partnership, collaboration and community building, the ideas sharing and learning, and the connections. Re-wilding is all about people looking after their place and all creatures great and small that call it home.

The project is now at the point where the course play zones (out-of-play, recovery and play) have been identified. Regeneration and protection zones have been earmarked and first-year pilot sites allocated and plants ordered. A mow and no-mow map is in design while nesting box type, number and locations are nearly finalised.



*While the Woodend re-wilding project is still in its infancy, it has captured the imagination of golf club members as well as receiving buy-in from local community groups*

Plots for Year 1 include the raised and tufted grassland to protect an out-of-play zone from ball entry, a pollinator plot, a weed-control region abutting grassland due for regeneration in Year 2 and several remnant grassland protection and enhancement sites.

Woodend course superintendent Grant Davies is one of the key players in the project to re-wild the course and its surrounds. Davies says the approach is to keep a balance of native vegetation and exotics. The course has a fairly even split between the two through the front of the course and to the back where most of the remnant vegetation and re-wilding opportunities lie.

Davies has a keen eye for species identification and his love of the golf course, the game and the environment will continue to see the project thrive under his leadership, supported by an army of passionate Woodend volunteers.

"Our revegetation project gives the club a chance to give back to the course that we play and love," Davies says. "With Kate's guidance and the engagement of local community and environmental groups, we will over time see significant cost and time savings with less time spent mowing rough and out-of-play areas. The environment will benefit from the native plantings and the increase in biodiversity. And



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The project is at the point where regeneration and protection zones around the course have been earmarked and first year pilot sites allocated and plants ordered

the course will become an even more beautiful place to be.”

Club secretary Hearnden adds: “During pandemic restrictions, over 80 per cent of our members surveyed missed the social interaction that being part of the club provides. This project offers another way for members and the wider community to be involved at the club.

### COMMUNITY SUPPORT

While club members are getting behind the project, so too is the local community. To date there have been many ‘walks’ of the golf course to get the re-wilding project to its present point. The latest community gathering showed what the maps and plans mean, allowing a joint vision for the scope of

possibility in future years. Club members and staff joined with community representatives from Landcare, Council, Woodend Bee Friendly Society and consultants to identify plants and share information and new ideas.

When asked about what the re-wilding project means to Woodend, representatives were in agreement the project would provide significant benefits for local flora and fauna as well as the Woodend community.

“This project is a great opportunity for two community organisations to collaborate on connecting the natural environment unique to our township,” says Peter Yates of Woodend Landcare. “We are working on an environment master plan for the Five Mile Creek precinct that adjoins the golf club. We supported each other’s application to the MRSC

community-funding scheme and together we are identifying walking paths to connect the spaces and collaborating on plant identification and revegetation management techniques.

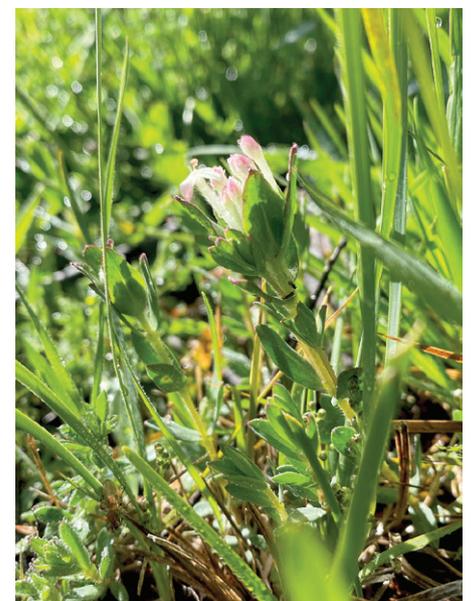
“In years to come the golf course’s re-wilded areas will be a great resource for Woodend Landcare to be able to show what is possible and upskill our members together with the club volunteers to identify local wildlife species and learn about revegetation management techniques.”

William Terry from the Macedon Ranges Shire Council believes such a project as the one being undertaken at Woodend could be done on golf courses across Australia and has been impressed with the level of community engagement it has generated.

“I am blown away by the opportunity for enhancing habitat at Woodend Golf Course,” says Terry. “The course re-wilding will support such a variety of wildlife. As nesting boxes are introduced, remnant vegetation is enhanced, weeds are controlled and plots of revegetation are put in place, we should see a resurgence in native species. It is exciting to think that the club may be home now and in the future to near threatened or threatened species.”

Ross Brierty from Woodend Bee Friendly Society has applauded the club for the creation of a bespoke pollinator plot on course and says Australian golf courses should consider investing in such work.

“Woodend’s approach is almost an extension of our community work to support bees in the local environment,” says Brierty. “Offering support on location, plantings and pitfalls of chemical use that can impact both native and introduced bees, along with hive type and location, helps everyone in the community appreciate the importance of bees and how to protect them as an integral part of our food web.”



Just some of the endemic species present at Woodend GC. Left is *Wurmbea dioica* (early Nancy), middle is *Diuris chryseopsis* (Golden moths) and right *Pimelea humilis* (common rice-flower)



*Kate Torgersen talks to members and community group representatives during a recent course walk*



*Woodend has a fairly even split between native and exotic species, with the back nine where most of the remnant vegetation resides and re-wilding opportunities lie. Pictured is the par three 14th*

This aspect of the project also received a tick of approval from Dr Mark Hall, a postdoctoral research Fellow in the area of pollination, community and landscape ecology from the Hawkesbury Institute for the Environment (Western Sydney University).

"The planned Woodend Golf Club pollinator plot will be a great opportunity to

transform a greenfield site into a pollinator haven," Dr Hall says. "It will also feed into the hive of pollinator activity and research being undertaken by the Upper Campaspe Landcare Network. The initiative of this sports club to be part of supporting wildlife shows their connection to their community and an understanding of new methods of course

stewardship. These types of changes are critical to support healthy local pollinators."

### JUST THE BEGINNING

While the Woodend re-wilding project is still in its infancy, so far it has captured the imagination of golf club members as well as receiving buy-in from the local community.

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Nature enthusiast and Woodend member Erica Fredriksen sums up what such a project means.

“I am new to Woodend and the game of golf,” explains Fredriksen. “I have loved seeing the wildlife on course, in particular the birdlife, and the recent course walks have opened my eyes to so many plants I had never seen before. Golf is such a great way to connect to our natural world.”

**Editor’s Note:** Woodend Golf Club will provide project updates through its social media channels as it evolves. Interested observers can connect with the club on Twitter @ GolfWoodend.

*The re-wilding project at Woodend offers another way for members and the wider community to be involved at the club*

## RE-WILDING 101 – GETTING THE PROCESS STARTED

**A**nnabel Sides and Kate Torgersen provide some useful tips and advice for golf clubs looking at re-wilding their golf course.

- Allocate time, money and resources to re-wilding your club. This could be through applying for a grant, having a fundraiser or setting up a ‘green golfer’ membership.
- Explore skills with your club to create an environment master plan (EMP) or seek expert advice from a specialist environmental consultant.
- Find out who are the traditional owners of the land on which your club sits and seek to engage with them. Welcome them on course and into your club to be part of the planning process to share local wildlife knowledge, land and waterway management techniques, as well as to identify local significance of the region.
- Ensure your EMP encompasses plant identification and pilot areas, longer-term plans, water, fertiliser and chemical management, seed banking and weed control, seasonal-mow schedules, plus zone identification (riparian, grassland, forest, remnant, revegetation or buffering).
- Identify out-of-play, recovery and play zones and what these mean and why the club has chosen them as part of the environment master plan.
- Investigate being part of a university study for habitat.
- Provide club members and visitors with a bird guide and map as part of their cart hire. Get them involved in local bird count blitzes by encouraging them to download an app and be part of the annual Australian bird count and frog ID program.



- Talk to the local water-catchment authority and see if there are ways to collaborate with them to manage water quality and revegetate and manage riparian zones.
- See if you can work with local tree project volunteers to propagate or provide seed (especially if your course is located in an urban area).



- Talk to a local Landcare to support seed banking for future regeneration projects.
- Use the club platform to write about your efforts to support wildlife.
- Contact local schools to see if they’re interested in a nature and junior golfer program.
- Offer local community engagement at the club through walking tracks, outside of tee times.
- Leave what falls on country on country and resist the temptation to clean up out-of-play areas.
- Allow spaces to green, such as car park areas, rooftops and those out-of-bounds areas that can all contribute to habitat.
- Promote re-wilding practices through social media and broader media channels to connect people to your project.
- Utilise signage to showcase the regeneration areas.
- Join a community of practice such as Environmental Golf Solutions, which hosts Zoom chat sessions where people can ask questions and listen to case study examples.
- Know that when seeking funds, there are opportunities outside of normal sports grants. A conversation with Annabel Sides from Green Planet Sport can help generate ideas around what might be available.
- Take drone footage and pictures to compare your course in future years.
- Commence re-wilding in small out-of-play zones or areas that already have native vegetation.
- Look to include threatened or near-threatened endemic species in your plantings.
- Start today.



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# Traits of a true leader

*Ben Gibson explains that leadership can be defined simply as 'positive influence'*

I love such a short, powerful description of a life changing responsibility and opportunity. Our role as leaders is to leave individuals, teams and organisations in better shape than when we found them.

We do that by motivating and inspiring them beyond giving orders and exercising authority gained through title.

Real leadership exists only if people follow when they would otherwise have the opportunity to not follow. Many managers misconstrue leadership with simply exercising power and giving orders.

Global life and business strategist Tony Robbins defines leadership as:

"The ability to inspire a team to achieve a certain goal. It's usually discussed in the context of business, but leadership is also how you, as an individual, choose to lead your life. The true leadership definition is to influence, inspire and help others become their best selves, building their skills and achieving goals along the way. You don't have to be a CEO, manager or even a team lead to be a leader. Leadership is a set of skills – and a certain psychology – that anyone can master."

Effective leadership plays a pivotal role in

the development of a safety culture. According to SafeWork Australia's definition:

"Leaders are people who influence the attitudes and behaviours of others. Sometimes they do this through their formal role and sometimes by their personal influence.

"A positive leadership and management style can improve an organisation's safety performance. There is strong evidence that performance is improved when organisations address safety risks along with other important business risks."

Whether in our personal or professional lives, leadership and the opportunity to lead are all around us and deeply ingrained in the actions we take. Every decision we make provides the opportunity to lead and operate above or below the line – with our thoughts and behaviours derived from our intent, values, passion and commitment.

AFL junior coach, father and grounds manager at Scotch College in Melbourne, Michael Smith, keeps his leadership pretty simple:

"I have learnt a lot from coaching kids through the various age groups. I like to apply the same principles when managing my team

here at Scotch College. Develop, empower, mentor, trust. I live by this. I like to reinforce that I'm doing this regularly.

"As a coach, I draw a lot of pleasure from watching my players mature, improve as players and as people, and I feel privileged to play a part in this. Ultimately, I see my job is to make them better players, better teammates, better people, how to be competitive, how to be compassionate, show empathy, how to be a good winner and how to be a good loser, and to always remain humble and hungry.

"I believe these are all important life skills. If you haven't got their hearts, you haven't got their minds."

## EFFECTIVE LEADERS

Let's look at some behaviour of great leaders we have observed across the turf industry. Not necessarily in any particular order (although lead by example is a favourite), but the following is a summary of key leadership attributes we have seen having the biggest impact.

**Lead by example:** A leader lets their actions, communication, punctuality, quality of work,

*Left: Our ability to connect, build relationships and establish trust with others is fundamental in our ability to inspire, engage and lead*

attitude, enthusiasm, professionalism, respect and empathy for others show how they want their team or colleagues to behave. Instead of “Do as I say not as I do”, a better maxim would be “Do as I say and do”.

“I have always felt that leadership is about showing the team the behaviours, standards and culture you expect from them through your own actions and decisions,” says Richard James, superintendent at Adelaide’s Kooyonga Golf Club.

“Leading by example doesn’t mean you have to always be on the tools with the team or in the bunkers. But rather showing them with your work ethic, commitment and communication that you are dedicated, and also maintaining the standards you set for the team.”

**Lead with integrity:** Decisions and actions must come from a place of integrity that align with the leader’s personal values and the goals of the team. Anything less and the damage to culture, level of trust and communication will be immense.



*“I have always felt that leadership is about showing the team the behaviours, standards and culture you expect from them through your own actions and decisions.” – Richard James, Kooyonga Golf Club*

**Understand that leadership is about people:** Leadership is primarily about the why, some of the how, and less to do with the what. Our ability to connect, build relationships and establish trust with others is fundamental in our ability to inspire, engage and lead.

**Have solid values that they openly communicate:** Leaders let people know what they stand for, who they are, and why they do

what they do. A leader who doesn’t limits their ability to inspire and engage others.

**Do what is right, even if it is tough:** Strong leadership requires difficult decisions and even tougher action. Leaders have the commitment to the vision, their teams and to ethical behaviour to perform difficult actions on behalf of the organisation. Reluctance in this area is one of the biggest failings in leadership.

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Michael Smith (left) and Jim Porter

**Have the courage to have the difficult conversations:** I have often heard the maxim, “Those without the courage to lead shouldn’t.” At times, leadership requires difficult conversations, meetings, performance management, staff termination, conflict, criticism ... the list can go on. An effective leader has the courage to have these conversations on behalf of the team and the shared vision and goals.

**Are consistent and use systems:** Every effective leader we have worked with in the sports turf industry has a plan and a system to implement it. An important pillar of trust building in leadership is embodied in the idea of consistency. Effective leaders are consistent in their behaviours, communications and values. Providing teams with systems and consistency gives them faith in your competence and influence as a leader.

**Are human, admit mistakes and are willing to show vulnerability:** A great leader shows their team they are human. They share experiences (successes and failures) to benefit the development of the team and each individual’s future success. This is not an overload of personal information or inappropriate sharing. Rather it’s a conscious choice to help others in their journey and empathise with them, explaining that you have also been there, had some falls, and share how you turned things around.

**Are strong communicators:** How and when we communicate with our team can be the difference between OK and great. It’s important to find the right medium for each team member. Communication frequency is paramount to ensuring effective consultation and an ability to bring them into the vision.

**Have the confidence to give and ask for feedback:** Effective leaders go beyond the “my way or the highway” approach. Good leaders have the courage to offer their team constructive feedback – based on fact, not opinion. Importantly, they regularly ask for feedback on team goals and individual performances. Strong relationships within the team can lead to powerful feedback that will both help you and the team improve.

**Listen (actively):** Let’s not check our phones during a conversation or meeting. Ask relevant questions that show you are actually listening to your team. Use responsive body language to show you are interested in their opinion and input. Active listening is a compelling and powerful leadership tool, but one which is often not practiced. Think of the people in your life who actually listen properly to you. How do you feel about them?

**Are always composed:** A quote attributed to French military leader Napoleon Bonaparte is: “The first qualification of a general is a cool head.” Remaining level-headed in times of adversity is one of the most important attributes of leadership. Often, the worst that can happen is not the event itself, but the event and you losing your cool.

**Are inspiring, with an infectious attitude:** People are engaged when they listen to a leader speak. They can hear the passion in the voice and the commitment to the vision and goals. It is hard not to buy in to that momentum and be inspired to contribute. Anyone who has had the privilege of spending time with Pat Wilson of Pambula Merimbula Golf Club on the NSW South Coast will know his energy and enthusiasm are second to none.

A conversation with Wilson leaves people motivated, energised and feeling positive. Consider how your actions could have this impact on others and how you can support them.



*A leader isn’t afraid to get their hands dirty and instil a work ethic for their team to follow. Pictured is The Lakes superintendent Anthony Mills cleaning out debris from a spillway during the 2018 Australian Open*

**Use technology and are open to innovation:** A great leader is open to change and doesn’t let ego or past behaviours get in the way of the team’s improvement or success. Leaders are constantly looking for new ideas and opportunities to help the team improve.

The range of technology and software available to the turf industry provides huge opportunities to improve all aspects of turf management. No need to live on your device, but there is ready access to bucket loads of industry knowledge, data and information.

**Work inclusively and provide opportunity to achieve more:** Leaders don’t play favourites, give anyone the cold shoulder, nor exclude others from opportunity. Good leaders give everyone a shot at being their best and operating above their pay grade. For the handful of mistakes or failures, you will be blown away by the other 95 per cent that exceed your expectations by a mile.

## LEAVING A LEGACY

Most importantly, effective leaders create more leaders. If our role in leadership is to positively influence and inspire others to achieve and be the best version of themselves, then a significant part of leadership focus should be on development, mentoring and success of those in our team.

“I always thought that golf course superintendents and probably most turf managers usually find themselves being accidental leaders,” says former Royal Melbourne Golf Club superintendent Jim Porter, now senior turf agronomist with ETP.

“We end up in these roles because of our expertise, knowledge, education and experience in preparing turf surfaces. But for most facilities, this requires staff. In my situation almost 31 years ago – at age 29 with a staff of 19 that grew to 40 or more for tournaments – this was a significant challenge.

“My education and previous employment did not properly prepare me for this most important part of the job: staff management. In many ways, I believe this still to be the case today. Leadership education and training is critical for the managers and is now being incorporated into current-day education. And current turf managers need to help develop the industry’s future leaders. For example, introduce 2IC’s and 3IC’s to all facets of staff management.”

## GOT A QUESTION FOR BEN?

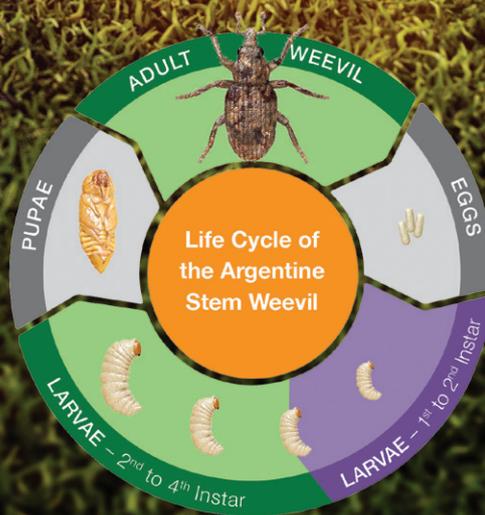
If there are any management or leadership topics/issues/questions that you would like ATM columnist Ben Gibson to write about or address in Australian Turfgrass Management Journal, please send to editor Brett Robinson via email [brett@agcsa.com.au](mailto:brett@agcsa.com.au).

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# Regenerative thriving

PHOTO: ANDREAS BERHEDE/STOCK.ADOBE.COM

*ATM columnist Terry Muir introduces a new concept to reframe the discussion around the sports turf industry's drive for improved sustainability.*

**H**istorically, businesses have operated in service solely to improve their financial bottom line. Some businesses did begin to realise the connection among environmental health, social wellbeing and the organisation's financial success. Then in 1994, author and entrepreneur John Elkington built upon the concept of the triple bottom line in hopes to transform what was the current financial-focused business system to take on a more comprehensive approach.

Rather than just reflect on their profit and loss statements, he wanted businesses to also account for their relationships with the environment, their people, and the community. He then transformed the triple bottom line to 'people, planet and profit', proposing that business success metrics must include contributions to environmental health, social wellbeing and a just economy.

As Elkington reported in his Harvard Business Review article, "The triple bottom line wasn't designed to be just an accounting tool. It was supposed to provoke deeper thinking about capitalism and its future." He went on further to state that "while there have been successes, our climate, water resources, oceans, forests, soils and biodiversity are all

increasingly threatened. It is time to either step up – or get out of the way."

Now, despite its increasing popularity, Elkington 'recalled' his triple bottom line in what he called a 'concept recall'. On its 25th anniversary the three P's needed tweaking.

To truly shift the needle, and respond to the climate crisis, the three P's and the term sustainability were in need of change. Why? Well, on 29 July this year we busted Earth's budget! They call it Earth Overshoot Day and it marks the date when humanity has exhausted nature's budget for the year. For the rest of the year, we are maintaining our ecological deficit by drawing down local resource stocks and accumulating CO<sub>2</sub> in the atmosphere.

In Australia's case, it was way back on 22 March 2021 that we exhausted nature's budget for the year. For the remaining nine months of 2021, we are operating in ecological deficit and Australia is one of the worst performers.

## A NEW APPROACH

It is thanks to the introduction of the concept of sustainability and the three P's that all now understand the need for solutions. The climate crisis requires that we build on their strengths and look at bold new approaches to the challenges we face today. I believe

that 'thrivability' best reframes the term sustainability. Throw in the term 'regenerative', which is very apt in agronomy, and the next stage in the evolution of the term sustainability – 'regenerative thriving' – is born.

Regenerative thriving represents a necessary paradigm shift for sustainability in our sector. If you are preparing your strategy to protect and enhance the environment, and increase health and wellbeing, take a step into a new way of thinking.

And, as you prepare for the climate crisis, don't overlook the three P's. I support the three P's that Elkington has amended to now read as 'people, planet and prosperity'. But I suggest some minor dimensional changes. I call it the three P's for sports turf management that;

- **Prevents** harm to people and the environment;
- **Prepares** for the climate crisis; and
- **Positions** the business to thrive in a highly regulated and low carbon future.

This decade is golf's moment to think big, embrace the new three P's, to go beyond sustainability and embrace regenerative thriving. Acting on climate change and embracing the new concepts of sustainability is golf's next greatest opportunity to thrive. 🌱



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# Magenta Shores G&CC,

*From growing up on a third generation family-run sheep farm in the rural backblocks of New Zealand, to plying his trade as a greenkeeper on Melbourne's famed Sandbelt, James Newell has certainly had an interesting journey en route to his current role as superintendent at Magenta Shores on the NSW Central Coast.*

**Superintendent:** James Newell (39).

**Family:** Married with three boys (12-year-old twins and an 8-year-old).

**Social media:** Twitter @Jlnewell10H.

**Period as a superintendent:** Two years, two months.

**Turf management career:** Apprenticeship Karori GC, NZ (2005-2008); Senior greenkeeper Cape Kidnappers GC, NZ (2008); Assistant superintendent Paraparaumu Beach GC, NZ (2008-2011); Assistant superintendent Woodlands GC, Vic (2011-2015); Assistant superintendent Yarra Yarra GC, Vic (2015-2019); Superintendent Magenta Shores G&CC, NSW (2019-present).

**Qualifications:** Certificate IV and Diploma in Sports Turf Management.

**Major hobbies/past-times/claims to fame:** Coaching hockey (assistant and head coach). Won four titles at men's and women's Premier level as well as one title at Colts level. State coach in both NZ and Australia.

**Where is Magenta Shores G&CC and for what is the course renowned?** Rated in the top 30 in Australia and top 10 in NSW by Australian Golf Digest, Magenta Shores is set amongst some of the most inspiring and unspoilt surroundings on a pristine peninsular between Tuggerah Lake and the Pacific Ocean, just a 90-minute drive from Sydney on the Central Coast of NSW. The construction of the Ross Watson-designed layout is the perfect testament to how a golf course can not only improve the environment but also provide great pleasure to the senses.

When Watson first laid eyes on the site at the back of Magenta Shores beach, part of it was merely used as a rubbish tip. During his inspection in the early 2000s, Watson recognised the site's wonderful undulating profile and how the majority of the site covers all sand, which offered a blank canvas to get really creative with the bunkering and green sites.

**Tell us a bit about your background and how you started in the turf industry. You are originally from across the Ditch.** I grew up on a third-generation family sheep and beef farm in the Taranaki region of New Zealand. As a Kiwi kid we always played rugby but I wasn't really built for rugby and played hockey instead. I remember one summer saving all my money to buy a set of second-hand golf clubs that cost \$200. My younger brother and I used to play on the farm all the time and would create holes. At first the greens were the water troughs. Then we started to get more creative and used the tractors to mow out playing lines. For tees and greens we used the ride-on mower. At one point we even got on an excavator and created hazards.

Hockey took me to the Otago Institute of Sport where I studied for two years before finding myself in Wellington as a hockey coach. At the same time there was a sports turf apprenticeship going at Wellington City



*Rated consistently in the top 30 in Australia, Magenta Shores is set amongst the unspoilt surroundings on a pristine peninsular between Tuggerah Lake and the Pacific Ocean on the NSW Central Coast*

But then superintendent Ian Todd offered to share my CV with nearby clubs. The next day I was in contact with Rod Tatt at Woodlands Golf Club and was offered a role.

Four weeks later I moved to Melbourne. My wife and the two-year-old twins stayed in NZ for two months while I got set up. It all happened very fast. I thoroughly enjoyed my time at PBGC. It is a special place and it was really the start of my career – especially when it came to leading a team and managing turf. One day I may end up back in NZ, but at the moment life is in Australia.

**You worked for a number of years on the Melbourne Sandbelt before moving north. Talk about your roles, experiences and highlights.**

When I first arrived at Woodlands I was being shown around and saw a sand bucket near the base of a tree near the 12th green. I picked it up and suddenly this big hairy huntsman spider came out of it. It scared the hell out of me and wasn't a great first impression of Australia!

I started as a qualified greenkeeper at Woodlands and each year an opportunity would become available. The first time I was offered the role as an assistant it was a dual role. I was totally blown away that I was considered. The following year the other assistant moved on and I was offered the sole assistant role. Over those years I was attending evening classes at Melbourne Polytechnic to complete my Diploma.

At both Woodlands and Yarra I was involved with the overplanting of Santa Ana

into the native couch. That experience helped with getting the role at Magenta due to the fact this was the key project for Magenta. At Woodlands we had some vandalism to two of the greens where motorbikes tore them up. This started the program of a green complex replacement program. Before that we had engaged an architect – lead associate Brian Slawnick from Renaissance Golf Design (RGD) – to design and shape the 19th hole.

At Yarra Yarra the main highlight was the start of the course restoration project. We went through the architect selection process and RGD was also appointed. Following site visits from Brian, tree removal began and we started on improving mowing lines and linking fairways together along with bunker works. During my time at Woodlands and Yarra Yarra we held four Australian amateur events and also helped out at Victoria and Kingston Heath for various tournaments.

**How did the Magenta Shores role come about?** When the Magenta Shores role was advertised, I hadn't really heard of it. I had visited a few of the Sydney premier courses over the years. I had also had a couple of interviews for assistant roles in Sydney only to just miss out. I looked at Magenta's website and did some more research about the course. It was exciting to see a 'modern links course' that I knew I'd be passionate about.

During my time at Yarra I applied for three other superintendent roles only to miss out. After each interview I would self-analyse my performance and work on fine-tuning my application and interview process. I'm not just applying for a superintendent's role just for the sake of a title. I had worked hard and have a deep passion for this role.

Council. There was a golf course where we would get to spend three months and then progress to different sports fields for another three months. Once I got to the golf course, I didn't want to leave. An apprenticeship came up at Karori Golf Club and I finished my training there.

In 2008 I took a sabbatical, borrowed a work colleague's caravan and lived in it for eight weeks while working at Paraparaumu Beach Golf Club for the NZ State Championship. It was an amazing experience and I got a taste for working on an elite golf course and haven't looked back. I had a small stint at Cape Kidnappers, during which time it hosted the Kiwi Challenge, before ending up back at PBGC as assistant superintendent under Leo Barber.

Following the NZ turf conference held in Queenstown in 2011, a group of Melbourne superintendents were visiting PBGC. As I was showing them around, I was asking lots of questions. Four weeks later I applied for a role at Victoria Golf Club, which I missed out on.

*Course superintendent James Newell (left) and his Magenta Shores crew. Newell moved to the course in 2019 after stints as assistant superintendent at Paraparaumu Beach (NZ), Woodlands and Yarra Yarra*





*It has been a very busy past two years at Magenta Shores with one of the major projects completed being the overplanting/converting of the Legend couchgrass fairways to Santa Ana*

As a family we've had to sacrifice being close to friends and family. Earlier in my career in NZ I was offered a role as superintendent. I decided to turn it down because I wasn't attracted to the course. My wife would remind me every time I missed out on a job that I should have taken the role.

When I was offered the superintendent's role at Magenta, I was very excited about the opportunity it presented me. Again we were packing up the house and moving away from friends and family. We did a PowerPoint presentation for the children, which went down well and explained the reason for the move.

**Magenta Shores is your first superintendent posting. Looking back, how big a step up has it been?** I've had excellent role models over my career: a special thanks to Leo Barber at PBGC, Rod Tatt at Woodlands and Yarra Yarra, and Clint Raven at Yarra Yarra

as well. These guys helped my development hugely and put a lot of trust in me, giving me the roles from managing operations to planning projects. Both general managers at Woodlands and Yarra Yarra (John Stamp and Peter Vlahandreas) helped along the way as well. Both clubs offered a lot of training and education to challenge me and help prepare for that next role.

Any time that you take on more responsibilities there are going to be challenges or adjustments that you'll have to make. I had worked hard and back my experience and education, which contribute to making strong and confident decisions. This definitely helped make a smooth transition into the role at Magenta. Since being at Magenta, general manager Rob Hurley has been fantastic in giving me the tools that we need to get the job done and make good business decisions to help elevate the club/course.

**What advice would you give an assistant looking to take the step into a super's role?**

All of a sudden, all eyes are going to be on you. You need to be able to take them on that journey/direction you're wanting to take. You need to make big decisions and inspire people. You're not going to please everyone and don't try to, otherwise you won't make good decisions. Be confident in any decision you make. Having flexibility and trust from people around you is essential. It's important to remember it goes both ways. Have a strong relationship with key staff so they can make decisions on your behalf.

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

It has been a very busy two years at Magenta Shores. Three major projects have been completed. The first was the overplanting/converting Santa Ana into the Legend couch in the fairways. The best and most successful way was to get the contractor in with the right equipment.

We brought a contractor up from Victoria and set up a plan of attack. There was a lot of thatch accumulation in the fairways so we thought the best approach was to aggressively scarify the fairways. We first went over them three times and then line-planted into the scarified fairways. We completed the front-nine fairways in February 2020 and the back-nine fairways in February 2021. We had the nine holes closed for 12 days and contractors took three days to complete the scarifying and line-planting.

There were a couple of areas on the fairways that we were able to harvest Santa Ana to keep the cost down and utilise the



*Applications of methiozolin have aided tremendously in reducing the Poa annua percentage in Magenta Shores' Penn G2 bentgrass greens*

good Santa Ana that we had on site. We chose to do it in February due to the fact how hot and dry the start of summer was in 2019/2020. We would have struggled to keep adequate moisture levels up for the stolons to survive. In the week we were meant to start we had 330mm of rain so we pushed it back a week. The transition has been excellent. The climate up on the Central Coast works well for the Santa Ana. Most fairways on the front nine would have greater than 75 per cent Santa Ana conversion. I expect by the end of this summer to have nearly full conversion of Santa Ana.

The next major project was to appoint a course architect to make sure we showcase Magenta in the way that Ross Watson intended it to be with some flexibility to account for updated trends. I put forward a list of suitable architects to the course committee and board, which included Ross Watson. It was an easy decision to contact Ross and see if he was interested, which he was.

The course has evolved over time so we wanted to look at the style and placement of bunkers. Do they need to be in that location? Or could we reduce the size but also access into them? The dam had some work completed to it, so a tee shot had been affected from its original position. What about the option for a spare hole? And was there any way to extend the warm-up range?

Once Ross had provided an overview, everyone was happy with the report and we went about planning some works. We decided a three-week period in April worked well for everyone. During that time we installed the new 19th hole and worked on bunkers on holes 2 through 5. We had planned to complete another chunk of works in September and December. But as the pandemic affected this, we will do another lot of work in April again. This will include works on the 11th hole (which is a tee reposition and bunkers), works on



*With a lot of thatch in the existing Legend fairways, they were aggressively scarified three times before Santa Ana couch was line-planted into them*

the 7th and 12th holes (again bunkers) and re-levelling the 7th tee.

The last major project has been the eradication of *Poa annua* from the putting surfaces. We used PoaCure (methiozolin) with a great result on the eradication. We did four applications at four weeks apart with the first application at the start of June.

We had greens with a *Poa annua* infestation of varying percentages, ranging from 20-60 per cent. As of the start of November we are just waiting on a few last areas of bentgrass to fully cover over on the greens that contained the highest percentage of *Poa annua* infestation. I've been impressed with PoaCure and knew it was going to make a difference. I just didn't realise it was going to improve it that much! It has made it a lot easier to see the shape and swales in the greens, which is fantastic. No doubt there will be a lot of other benefits, such as environmentally and playability, to having pure bentgrass putting surfaces.

We have also just installed a Nano Bubble Technologies unit, which is a major development for Magenta. It creates a highly saturated nanoscopic bubble infused with oxygen and ozone. We have Class B recycled water that contains a lot of fungal and bacteria spores. The nanobubbles will eliminate the spores and provide oxygen to the plant while also providing favourable conditions for beneficial soil microflora.



*Part of the course is constructed on an old tip and a perfect testament to how a golf course can not only improve the environment, but also provide great pleasure to the senses*

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*The transition to Santa Ana has been excellent with the climate on the Central Coast providing favourable conditions for the process. Newell expects by end of this summer to have near full conversion*



**What have you got in the shed?** We have a mixture of Toro and John Deere equipment: MP5800 spray rig; 5010H fairway mowers (x2); 4500-D rough mower; 3100 Sidewinder Tees; 3250-D mowers (x3); 648 Procure; 220-E Walk mowers (x4); HPX615E Gators (x5); Tru Turf Rollers RE50 (x2); tractors with loader (x2).

**What gives you the most job satisfaction?** When you have a plan in place, or you need

to solve an issue, seeing the team roll up their sleeves and get stuck in and perform at a high level, day-in day-out, regardless of the circumstances. Secondly, it's hearing that hard thud as you see the ball bouncing down the fairway or the sound of the approach shot into the green. Seeing the golf ball sitting up on top of the putting surface and rolling smoothly across the green puts a smile on the face of a golfer.

**Most pleasing/rewarding moment during your time at Magenta Shores?** Seeing the way the course played during the NSW Amateur. We had all extremes of weather during those five days – from two 35°C days with strong winds for the qualification to 80mm of rain for the next three days during match play. The course was playable every day to a high standard and represented Magenta Shores extremely well.

The most pleasing moment though has been the refurbishment works completed so far. Firstly, it was speaking to Ross Watson who was blown away to receive the phone call to be invited back to Magenta and provide advice on key features. The introduction of the new 19th hole has been very well received from the membership. All the staff worked long hours for those three weeks, maintaining the course to a good level of expectation while installing irrigation and laying all the turf. Those were some of the many tasks that we completed during Stage 1 of the refurbishments. Again, the staff rolled up their sleeves and got stuck in without any hesitation. 🙌

## AT A GLANCE – MAGENTA SHORES G&CC, NSW

**Course specs:** Men par 72, Black course 6319m; Women par 73, Red course 5074m

**Greens:** 1.75ha Penn G2 bentgrass; new 19th hole A1/A4 mix

**Fairways:** 22ha overplanted Santa Ana

**Tees:** 1.5ha mixture of Santa Ana and Legend

**Surrounds:** 1.5ha overplanted Santa Ana

**Roughs:** 7ha mixture of couch and fescues

**Bunkers:** 129 (1.4ha)

**Members/rounds:** 800/52,000 – has increased 12,000 rounds per annum since opening.

**Major tournaments:** 2019 Australian Mid-Amateur and 2020 NSW Amateur.

**Annual course budget:** \$1.5 million.

**Staff structure:** James Newell

(superintendent), Hayden Gilmore (assistant), Trent Gilmore (foreman/irrigation), Trent Deaves (equipment manager), Mitch Marsh – just moving to Shortland Waters GC –

and Graham Bettesworth (both qualified greenkeepers), Daniel Jones, Guy Ballard and Connor McLellan (all turf tradesmen), Daniel Watson, Adam Danckert and Lewis Cavender (apprentices) and Peter Wahanui (labourer). The landscape team that looks after the residential areas comprises Adam Jepson (landscape manager), Mick Rowsell and Shane Turton (horticulturists) and Megan Harper (apprentice). With regard to volunteers, we have between 5-10 most

Mondays for four hours, although none during the pandemic.

**Annual rainfall:** 1055mm.

**Terrain/soil types:** Manmade undulations – more than one million cubic metres of sand was moved to shape the course. Dune sand soils, which are very hydrophobic, have a rounded particle size.

**Water sources/irrigation:** Recycled Class B. (We have just installed a Nano Bubble Technologies unit as well as a new bore capable of producing 8L/s.) Toro satellite system with valve-in-head sprinklers. Pumps capable of operating at 4600L/min. About 3.5mm across the playing surfaces is about 1.4ML and we use about 150ML in a calendar year. Dosing unit for soil penetrant/surfactant weekly to help with hydrophobic sands from October-March.

**Cutting heights/regimes:** Greens range between 2.5mm-3mm, mown between two-five times a week depending on growth and season. Rolled twice a week. Collars/fringe areas just off the putting surface and between bunkers 5mm twice a week. Fairways and surrounds range between 8mm-10mm, one-two times a week (requires two mowers for two days to cut all large areas). Tees 7mm twice a week. Rough cut about six-eight times a year – is kept in a dormant look.

**Renovations:** On the greens we use bayonet

or small hollow tines five times a year.

Hollow tine once or twice a growing season based on greens performance (generally September/March). Greens dusted frequently based on growth. Our couchgrass surfaces have been aggressively scarified twice now. We also verticut with fairway mowers two or three times during growing season (September, December and March).

**Major disease pressures:** Dollar spot is the most common leaf disease. When conditions are favourable (normally late September to early November), we apply preventive fungicides. Potentially, we may again apply a preventative fungicide in early autumn. Other than the preventative fungicide, we adopt a curative approach when we have an outbreak just to certain greens. *Magnaporthe poa* has been the major disease that we have focused on over the prior two seasons. It affected the greens that had a very high percentage of *Poa annua* in them. We preventatively spray every three weeks from early October through to March. We also spray preventatively for pythium. We have had only two major outbreaks of pythium, these being when temperatures and humidity have been high, and we have irrigated the profile too much. Also, the recycled water can cause issues due to high fungal and bacteria spores contained in it.

# ASTMA CERTIFICATION PROGRAM

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

<b>Tim Allen</b> The National Golf, Belgium	<b>Adam Fry</b> Kooyonga GC, SA	<b>Craig Molloy</b> Cypress Lakes Resort, NSW
<b>Dean Bailey</b> Rosanna GC, Vic	<b>Ryan Fury</b> Killara GC, NSW	<b>Colin Morrison</b> Flinders GC, Vic
<b>Shane Baker</b> Mosman Park GC, WA	<b>Jake Gibbs</b> Elanora GC, ACT	<b>Damien Murrell</b> Easts Leisure & GC, NSW
<b>Brett Balloch</b> Anglesea GC, Vic	<b>Danny Hack</b> Wellington Shire, Vic	<b>John Nelson</b> Grafton District GC, NSW
<b>Ed Barraclough</b> Cardinia Beaconhills GC, Vic	<b>Cameron Hall</b> Kew GC, Vic	<b>James Newell</b> Magenta Shores G&CC, NSW
<b>Mark Bateman</b> Koorlingal GC, Vic	<b>Gareth Hammond</b> Terrey Hills GC, NSW	<b>Kelvin Nicholson</b> Palmer Cooloom Resort, Qld
<b>Tim Bayard</b> Evergreen Turf, Vic	<b>Brendan Hansard</b> Kew CC, NSW	<b>Matthew Oliver</b> QSAC, Qld
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<b>Nathan Bennett</b> The Royal Adelaide GC, SA	<b>Marcus Hartup</b> Vattana Golf, Cambodia	<b>Luke Partridge</b> Manly GC, NSW
<b>John Berthon</b> St Georges Basin CC, NSW	<b>Mitch Hayes</b> Brisbane GC, Qld	<b>Mick Pascoe</b> Noosa GC, Qld
<b>Paul Bevan</b> GTS, Qld	<b>Matthew Heeps</b> Evergreen Turf, Vic	<b>Ben Payne</b> Peninsula-Kingswood CGC, Vic
<b>Shane Bisseker</b> Whitsunday Council, Qld	<b>Luke Helm</b> Meadowbrook GC, Qld	<b>Michael Pearce</b> RACV Torquay GC, Vic
<b>Andrew Boyle</b> GTS, Vic	<b>Tony Hemming</b> Optus Stadium, WA	<b>Keegan Powell</b> The Sands Torquay, Vic
<b>Justin Bradbury</b> Camden GC, NSW	<b>Kirsty Herring</b> Katherine CC, NT	<b>Luke Primus</b> Deakin University, Vic
<b>Nathan Bradbury</b> Eastlake GC, NSW	<b>Tim Hoskinson</b> Cairns GC, Qld	<b>Scott Prince</b> Evergreen Turf Vic
<b>Harry Brennan</b> Dubbo City Council, NSW	<b>Ian Howell</b> Bonnie Doon GC, NSW	<b>Shaun Pritchard</b> PEGS, Vic
<b>Mark Brooks</b> Jupiter Hills GC, USA	<b>Rhys Hunichen</b> Atlas Golf Services Vic	<b>Justin Rankin</b> Kooindah Waters GC, NSW
<b>Brendan Brown</b> The Sands Torquay, Vic	<b>Jay Infanti</b> Eastern GC, Vic	<b>Marc Raymond</b> Heidelberg GC, Vic
<b>Fraser Brown</b> Lake Karrynup CC, WA	<b>Nick Jeffrey</b> St Joseph's College, Qld	<b>Scott Reid</b> Launceston GC, Tas
<b>Ben Bruzgulis</b> Cronulla GC, NSW	<b>Mark Jennings</b> Racing Victoria, Vic	<b>Lachlan Ridgewell</b> Blacktown ISP, NSW
<b>Hamish Buckingham</b> Commonwealth GC, Vic	<b>Steven Johnson</b> Al Mouj Golf, Oman	<b>Brett Saggus</b> BRG Legend Hill, Vietnam
<b>Chris Burgess</b> Yarrawonga Mulwala GC, Vic	<b>Tony Jonas</b> North Shore GC, NZ	<b>Wesley Saunders</b> Dunblane New GC, UK
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<b>Paul Chalmers</b> St Aloysius College, NSW	<b>Ben Lavender</b> Newington College, NSW	<b>John Spraggs</b> Royal Wellington GC, NZ
<b>Brenton Clarke</b> Warrnambool GC, Vic	<b>Jason Lavender</b> Beenleigh RSL & GC, Qld	<b>Daniel Stack</b> Windaroo Lakes GC, Qld
<b>Dan Cook</b> The Australian GC, NSW	<b>Dean Lenertz</b> St Michael's GC, NSW	<b>Kenji Steele</b> Riverway Stadium, Qld
<b>Lincoln Coombes</b> RACV Royal Pines, Qld	<b>Dean Lewis</b> Thurgoona CC, NSW	<b>Lee Strutt</b> Les Bordes International, France
<b>Phillip Cooper</b> GTS, NSW	<b>Josh Leyland</b> Box Hill GC, Vic	<b>David Sutherland</b> The Ridge GC, NSW
<b>Dion Cope</b> Redland Bay GC, Qld	<b>Nathan Lindsay</b> Hamilton Island GC, Qld	<b>Lee Sutherland</b> St Michael's GC, NSW
<b>Mick Cornish</b> Cazaly's Stadium, Qld	<b>Peter Lonergan</b> Coolangatta-Tweed Heads GC, NSW	<b>Shay Tasker</b> Carnarvon GC, NSW
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<b>Cameron Dunn</b> Woollooware GC, NSW	<b>Paul McLean</b> Sanctuary Cove G&CC, Qld	<b>Steve Tuckett</b> Melbourne Polytech, Vic
<b>Peter Dunn</b> Federal GC, ACT	<b>Michael McMahon</b> GTS, Qld	<b>Lee Veal</b> Mt Derrimut G&CC, Vic
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		<b>Matthew Young</b> Moonee Valley CC, Vic

For more information on the ASTMA Certification Program visit [www.agcsa.com.au](http://www.agcsa.com.au)

# STA VIC



**STA Victoria and Lilydale Instant Lawn combined to offer 450 square metres of washed Tif Tuf for the re-turfing of wickets at Traralgon Recreation Reserve**

In June 2021 the Traralgon Creek burst its banks, flooding adjacent properties, farmland and parts of Traralgon in Victoria's Latrobe Valley. Among the facilities impacted was Traralgon Recreation Reserve. At its peak the water was 1.5m deep. But as quick as it rose it subsided, leaving behind a thick layer of clay and silt, which smothered the oval in its entirety.

The Traralgon Rec Reserve is one of Latrobe City's major ovals. It has a sand profile, full-drainage system and Santa Ana couch surface. Even after clean-up efforts there was still a significant amount of clay and silt present on the oval. This had a massive impact on the ability of the oval to drain as it had previously. The priority was to ensure no further contamination of the root zone or significant drainage issues in the future. There

will also be the issue of the quantity of weed seedbank, which was bought onto the oval from neighbouring farmland.

With the couch being dormant, the range of practices that could be carried out were next to zero. But after some hunting around, a Verti-Rake was sourced from Leongatha Golf Course, which was used to flick up the material to encourage drying and then removing with a Harper-Vac. This enabled the local football club access to train on the oval.

The flood had immediate impact across all user groups at the reserve. But one to be affected severely was the Ex Students Cricket Club. The sediment left behind by floodwaters meant the wickets were going to be unusable in their current state. So a significant investment was going to be required to restore them to their previous high standard.

STA Victoria, along with its sponsor member Lilydale Instant Lawn (which has farms in Bairnsdale, Yarra Glen and Pakenham) combined to offer 450 square metres of washed Tif Tuf Bermuda grass for the re-turfing of wickets at Traralgon Recreation Reserve. This will provide a huge boost to the cricket club during this difficult period and enable it to focus on the upcoming season.

Latrobe City was pleased to have been able to assist in bringing together STA Victoria and Ex Students Cricket Club in the Traralgon & District Cricket Association. It has passed on thanks to the Association and Lilydale Instant Lawn for this generous donation to one of Traralgon's most significant venues.

## COMMITTEE, STA VICTORIA

# VGCSA

Pretty much nothing has gone according to plan since our last report with VGCSA Training Days and meetings being rescheduled, then only to be eventually cancelled. Our final event of the year, the VGCSA Open Golf Day, hopefully will take place at Barwon Heads Golf Club in mid November but with limited attendance to comply with COVID Safe practice. We can only cross our fingers the Victorian Roadmap remains on track with venues opening up in early November.

Optimistically, looking ahead to a brighter 2022, the VGCSA has now finalised next year's meeting calendar along with confirmed sponsors. We look forward to launching the annual program to members in November. We will also be rescheduling the 2021 training days to early 2022 due to popular demand. The VGCSA wishes to thank all contributing host clubs and trade sponsors for their valuable support.

**SHANE GREENHILL  
PRESIDENT, VGCSA**

# NSWGCSEA

New South Wales has just come out of what the government says is our "last lockdown" in mid October. In saying that, the golf industry hasn't been affected like it was in other states. Golf could be played in groups of two as it was classed as exercise. But there were a lot of different rules in different regions depending on your Local Government Area status, which caused a lot of confusion. Golf is now back to groups of four, while clubhouses have re-opened with some restrictions. But the end is in sight – until the government changes its mind.

The NSWGCSEA made the decision to postpone all remaining events for 2021 as the rules surrounding lockdowns and vaccinations was too murky. However, the new dates have been announced. The AGM will be held via Zoom on November 25. The Assistant Superintendent Education and Golf Day to be held at Long Reef Golf Club will now be on March 29, 2022. The 2021 Elite Sand and Soil Rube Walkerden Event at Killara Golf Club will now be held on April 21, 2022. For the first time, the John Deere Land HQ Annual

Ambrose Event will be held at Club Catalina on May 2, 2022. The NSWGCSEA is excited to welcome both sponsors on board.

The NSWGCSEA is currently looking for three superintendents to join the board. Vice President **David Somerville** (Bankstown GC) announced he would be stepping down. David has been an integral part of the board over the past four years as well as an immense support to myself as President. **Mark Schroder** (Liverpool GC) will be stepping down after nine years on the board (and 44 years in the industry). Mark has done a great job with the Education portfolio after **Mal Harris** handed over the reins. Both these guys will be sorely missed. Personally, I have made the decision that it's time to step back after six years on the Board and four as President. It has been a whirlwind six years with droughts, fires, floods, COVID and a few "other" early issues. But I've enjoyed it and will be happy to assist the Board until a replacement is found.

**NATHAN BRADBURY  
PRESIDENT, NSWGCSEA**

A lot has been happening within the ACT and its surrounding region since we last reported. The past few months have included our annual education seminar, the election of some returning and new committee members, and another lockdown. We are now out the other side of the lockdown and golf and recreational sport are making a return to facilities.

Back in July we made a decision to go ahead with our annual education seminar. After cancelling last year, the committee was eager to get members and sponsors back together – not only for the educational purposes but also the social aspect. We had more than 100 attendees, including our regular South Coast and surrounding region associates. It was great to see the turnout of apprentices as it helps integrate new faces into the industry.

Due to border restrictions, it was a little difficult for sponsors to be a part of the day.

However we connected with some of them online. Thanks to **Scott Fogg** from Living Turf and **Gavin Quinlan** from Canberra Kubota who were able to attend.

We have a new-look committee that was elected during our AGM after the 2021 Education Seminar. Former President **Brad Van Dam** stepped down earlier in the year after his resignation from the industry. Secretary **Jon Tait** took on the Acting President role and did a fantastic job.

The newly elected President is **Peter Dunn** from Federal Golf Club. Peter has been Treasurer and a past Committee member. Jon Tait from Green Option remains as Secretary while **David Mann** from ACT Government remains as Assistant Secretary. **Chris Bale** from Yowani Country Club has done a fantastic job as Treasurer and will remain in the role.

Our general Committee members are a mix of returning and new faces. We welcome

back **Scott Fogg** from Living Turf while **Simon Snedden** from Gold Creek Country Club and **Ryan Stores** from Royal Canberra Golf Club are fresh faces. **Bruce Davies** (CIT Canberra), **Andy Middleton** (Canturf), **Brandon Williams** (Yowani Country Club) and **Jimmy Correll** (Queanbeyan Golf Club) remain on Committee.

This new-look Committee already has plans for more social events for members and sponsors. Currently in the works is a social bowls afternoon on December 10, which would tie in with the Association Christmas drinks.

Stay tuned to our Facebook (Sports Turf Association ACT) and Instagram (ACT Sports Turf) pages with full details being released in the coming month.

**JIMMY CORRELL  
COMMITTEE, STA ACT**

## GCSAWA

Perth's long wet winter seems to be continuing with strong storms hitting in mid October, affecting a few courses that were undergoing spring renovations. The wettest day of the year has been October 1 when 44mm fell. Approaching the end of October, a total of 900mm had fallen in the city with more than 1,200mm in Perth's eastern suburbs.

While the Margaret River conference was postponed until April 3-6, 2022, the Association still held its AGM and Living Turf/Rainbird Golf Championship on August 9 at Hartfield Country Club. **Steve Abbott** from Araluen Golf Resort took out the stroke event with **Lance Knox** (Busselton GC) winning the Stableford competition. **Tom Tristram** joined the committee with **Nick Kinley**, **Dave Cassidy**, **Tony McFadyean** and **Shane Baker**.

Busselton Golf Club hosted an afternoon BBQ and drinks to celebrate the opening of its new shed in late August. About 40 industry people from Perth and all around the South-West attended the get-together. It was great to catch up with the lads from the South as they find it tough to attend the Perth events as often as they would like.

The GCSAWA has hosted a few chemical classes for members. Ten guys completed the two-day course in mid September with another 20 scheduled for the next classes in mid November. While we don't need a chemical licence like most other states, it was good to complete the course and align us with industry standards. Many of us hadn't done a refresher course since finishing TAFE as part of our apprenticeship. Thanks to Northam TAFE for helping.

Our Christmas party is booked for November 26 at Collier Park Mini Golf. All members, partners and children are invited.

Meanwhile, the GCSAWA teamed up with Golf Management Australia (GMA) to host the Management Challenge at Lakelands Country Club. Supers joined their GMs, presidents and captains for the team event won by Kwinana GC. It was great to have 16 teams competing given that five clubs were in-between supers while three clubs were in-between GMs.

It's been quite a busy period for movement in WA. We're continuing to build a relationship with managers with a forthcoming workshop titled, 'Working Under Pressure', which will be followed by a casual get-together.

**SHANE BAKER  
PRESIDENT, GCSAWA**

## GCSAQ

It was fantastic to get such a large number of golf industry people together for the Queensland Golf Industry Awards at Star Casino on October 28.

Congratulations to all the winners and nominees on the evening. Winners of the GCSAQ sponsored awards were as follows:

- Toro Golf Course Turf Apprentice of the Year Award: **Nick McClymont**, formally Headland Golf Club, now Twin Waters GC.
- Living Turf Superintendents Achievement

Award: **Stuart Campbell**, Maroochy River Golf Club.

- OCM & Greenway Turf Solutions Assistant Superintendent Recognition Award:

**Michael Todd**, Royal Queensland GC.

The 2021 AGM will be held on November 15 via Zoom. As all committee positions will become vacant, we invite interested parties to email [info@gcsaq.com.au](mailto:info@gcsaq.com.au) to express their interest in being a Committee member. All members will receive an invitation to attend.

With Christmas approaching, the Association is pleased to announce it will be hosting four Christmas parties. The Brisbane/Gold Coast event will be a tour of Suncorp Stadium followed by lunch at XXXX Brewery. Other events will be held for North Queensland, Sunshine Coast and Northern Rivers.

**PAUL MCLEAN  
PRESIDENT, GCSAQ**



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