

Keeping it Green



December 2008 Vol 1 Issue 1

AUSTRALIAN GOLF ENVIRONMENTAL INITIATIVE NEWSLETTER

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The game of golf holds a distinctive place in the Australian sporting landscape with its origins dating back to 1822 when Scottish settlers of the Tasmanian township of Bothwell first established Ratho Golf Links.

Ratho is not only known as the oldest golf course in Australia, but the oldest golf course outside of Scotland. From these humble beginnings, the game grew rapidly in popularity, especially from the early 1900s onwards. Today, golf is the highest participant sport in the country with over 8.2% of the population playing at least once per year, while as an industry it employs over 20,000 people, generating over \$1.1 billion in club revenue each year (Australian Golf Industry Report, 2004).

A major appeal for many who play the game is the setting of the golf course. Australia is well known as a golfing mecca with a plethora of world class golf courses which have inevitably been shaped by the surrounding landscape and accompanying harsh climatic conditions. As a result, our golf courses have a unique Australian character, with many set in a bushland location, dominated by indigenous flora and fauna.

The golf course and its surrounding environment is very much intertwined and can provide many positive environmental benefits. It is well

known that golf courses preserve open spaces and remnant vegetation within urban environments while also providing valuable wildlife habitat. Many degraded sites have also been successfully rehabilitated by the establishment of a golf course, not to mention the potential for courses to act as carbon sinks.

An often understated benefit is the sense of wellbeing experienced when out on the golf course. Not only is it a great form of exercise, but for many, the relaxing walk around the golf course and experiencing all its wonders is the major appeal. More so than the challenges of the game.

To counterbalance the many benefits of golf courses there are groups who argue that the construction and maintenance of golf courses present a number of environmental concerns, particularly in relation to the use of water, fertilisers and pesticides. The golf industry has been well aware of its environmental responsibilities for many years.

The Australian Golf Union in 1995 released a report entitled "Environmental Strategy for Australian Golf Courses". The aims of the strategy were to identify issues, collect information and promote awareness of golf clubs as environmental assets and to develop national guidelines for the environmental management of golf courses.

PRINCIPAL PARTNERS

Bayer Environmental Science



In 1996 the Australian Golf Course Superintendents Association (AGCSA) also formally recognised the importance the environment plays in their members' day-to-day activities by launching the *AGCSA Claude Crockford Environmental Award*. Named in honour of the former Royal Melbourne Golf Club greenkeeper, the award recognises excellence in golf course environmental management.

Moving forward from these initiatives, in 2005 the AGCSA, in conjunction with Golf Australia, launched the *Australian Golf Environmental Initiative*. The purpose and activities of the environmental initiative is to increase the environmental profile of Australian golf courses. A key part of the initiative is maintaining regular communication with those involved with golf and the wider community.

To meet this end we would like to welcome readers to the first issue of **Keeping it Green**, the *Australian Golf Environmental Initiative's* monthly environmental newsletter. The newsletter will provide a range of information and advice on environmental issues affecting golf courses, while also offering a forum for golf course personnel to communicate the environmental initiatives that are taking place at their golf course.

Keeping it Green will be produced monthly and sent out in a PDF format. Regular features will include;

- Editorial news
- Environmental updates
- On course news
- E Par updates, including case studies
- Golf course regeneration and revegetation case studies
- Contributions from the Society of Australian Golf Course Architects
- Recent publications

- Contributions on:
 - ✓ Biodiversity
 - ✓ Land management
 - ✓ Water management
 - ✓ Wildlife and habitat management
- Research articles and updates
- Contacts list

No doubt everyone would be aware of countless individuals within their club who are champions of their course environs, with many clubs having long established flora committees or a recognised 'Friends of the Course' group.

Keeping it Green would be delighted to hear of your club's or company's activities, or any other projects you have on the go. So if you think you have a story of interest, please drop us a line and a few photos.

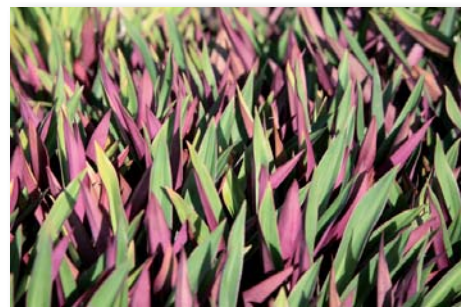
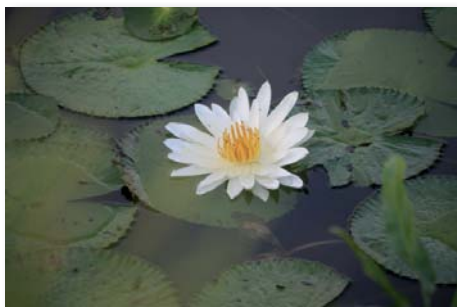
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Introducing our Principal Partners

Bayer Environmental Science and Toro Australia Back Australian Golf Environment Foundation



Bayer Environmental Science



The Australian Golf Environment Foundation (AGEF) has received a major boost with Bayer Environmental Science (BES) and Toro Australia being confirmed as inaugural principal partners. Demonstrating their ongoing commitment to improving industry environmental management practices, both BES and Toro Australia have made a significant contribution to the foundation which aims to use science and education to benefit the environmental management, protection, and enhancement of golf courses.

"Bayer Environmental Science is proud to be the inaugural principal partner of the Australian Golf Environment Foundation," says BES business development manager Justin McBeath. "Bayer is committed to sustainable development and we are engaged in a number of global environmental initiatives to achieve this."

"Being involved with the Australian Golf Environment Foundation is yet another way of fulfilling our vision of 'Protecting Tomorrow... Today' and we look forward to being able to further enhance and promote the environmental benefits of golf."

"The value of green space associated with golf courses in the context of urban environments is probably underestimated and the studies planned by the AGEF will provide important information of wider public interest."

One of the turf industry's most innovative and progressive companies, Toro Australia has also committed its support to

the foundation. "The golf industry is an important part of our business and the relationship we have with superintendents is key to this," says Cameron Russell, Manager Commercial Business Unit for Toro Australia.

"By supporting the Australian Golf Environment Foundation Toro Australia hopes to help golf course superintendents achieve their environmental management goals to ensure a more sustainable future not only for the golf course maintenance industry but for the game of golf in general."

"The environment is a huge issue for any business at present and it makes sense to invest in environmental programmes. We look forward to working with the AGCSA, the foundation and Australian superintendents in the marketplace to help promote the game of golf as an environmentally friendly sport and one that the public associate with excellence in environmental management."

The backing of BES and Toro Australia means that a number of key research initiatives identified by the foundation's advisory board can now progress.

AGCSA general manager John Neylan was delighted to welcome both Bayer Environmental Science and Toro Australia as principal partners of the AGEF. He says their backing provides a tremendous fillip and will enable the foundation to achieve a number of its environmental objectives going forward.

Our Logo

The frog is a creature that is highly sensitive to environmental conditions and changes in the environment.

The presence of frogs indicates a healthy environment, clean water and low pollution. It is therefore appropriate that the Australian Golf Environmental Initiative has adopted the famous 'frog on the ball' as a symbol of golf's commitment to the environment.

The green and golden bell frog was the front cover picture of the first edition of the Australian Turfgrass Management Magazine in 1999. The story of the endangered green and golden bell frog at Long Reef Golf Club is a great example of where golf courses can provide important habitat.



The logo for the Australian Golf Environmental Initiative represents your club's commitment to being environmentally aware and that you are documenting your environmental activities through the preparation of an environmental management system.

The logo is available to all clubs and organisations that are signed up to the Australian Golf Environmental Initiative and can use it on their letter head, newsletters, signs on the golf course and in the case of suppliers to the turf industry on their promotional literature.

Contact the AGCSA for more information about using the logo on (03) 9548 8600 or email info@agcsa.com.au

The Australian Golf Environmental Initiative

Many readers would be aware that the *Australian Golf Environmental Initiative* was established by the AGCSA in partnership with Golf Australia in 2005 to;

- Promote and foster the care of the environment on Australian golf courses.
- Recognise the environmental values of Australian golf courses.
- Encourage all Australian golf courses to develop and enact an ISO 14001-compliant environmental management system (EMS).
- To communicate the environmental values of Australian golf courses.

This initiative has evolved from the attitude that environmental regulatory agencies are of the view that industry, including industry bodies, should promote best practice environmental management within their own ranks. As a result, the AGCSA and Golf Australia have come together to meet this challenge by committing to a national initiative that will revolutionise golf course environmental management.

Environmental responsibility is a core value of the Australian golf industry and it recognises the important role that it plays in maintaining golf courses in a sustainable and environmentally responsible manner.

Key objectives of the Australian Golf Environmental Initiative

Through the *Australian Golf Environmental Initiative*, the golf industry is committing to environmental excellence by:

1. Integrating environmental factors into its business decisions.
2. Striving to meet and, where appropriate, exceed the requirements of all relevant legislation, regulations and other requirements to which the industry subscribes.
3. Developing and maintaining the AGCSA's Golf Environmental Management Strategy that distinguishes the Australian golf industry as the world leader in environmental management.
4. Encouraging commitment to the environment through training and awareness programmes.
5. Constantly striving to achieve continual improvement and the prevention of pollution in the environmental performance of golf courses.
6. Promoting water management strategies to all members.
7. Continuing to support and further enhance integrated pest management strategies.
8. Setting environmental objectives and targets and assessing the golf industries achievements.
9. Encouraging a similar environmental commitment from material suppliers and contractors.
10. Annually reviewing the Environmental Initiative and to communicate it to all members of the Australian golf industry and the public.

Key components of the Australian Golf Environmental Initiative

The *Australian Golf Environmental Initiative* is made up of the following components;

1. The Golf Environment website (www.golfenvironment.com.au). The website is being developed as a resource centre on environmental management for golf courses.
2. The e-par® EMS. To encourage every golf course in Australia to implement an EMS, the AGCSA has endorsed e-par® (www.epar.com.au) which is an ISO 14001-based EMS specifically designed for golf courses. The AGCSA has had a long-term relationship with Terry Muir, the developer of e-par®, where the industry has contributed significantly to the refinement of the EMS. Developed specifically for the golf industry, e-par® was recently recognised by a USGA study, "as the most advanced programme applying the EMS concept to golf courses in the world." e-par® not only assists clubs in being environmentally compliant, it is also an excellent means of managing a range of activities such as pesticide applications and water, energy and waste management.
3. Australian Golf Environment Foundation. The foundation is being established to manage the revenue derived from the sales of e-par® and other donations to fund research projects and study bursaries in golf courses and the environment, as well as assisting needy clubs in the development of an EMS.
4. Industry self-regulation. The most ambitious part of the Environmental Initiative is to strive for self-regulation where the golf industry becomes responsible for overseeing its environmental compliance.

The success of this initiative requires leaders of change and the participation of all golf clubs. Through the initiative we expect many benefits that include:-

- The enhancement of public confidence in golf course environmental management.
- The fostering of the Australian golf industry's reputation as world leaders in environmental management.
- Industry self-regulation (the voluntary association of clubs to control their collective action).
- Increasing the environmental management skill base of golf course staff and management.
- Annual reporting on the environmental performance of the industry.
- Establishing partnerships with regulatory bodies and sponsors with a goal of improving the environment.

The Australian golfing industry's environmental initiative is targeting all clubs, members and decision makers to improve environmental performance. More than a containment strategy or a holding operation this national environmental management approach forces responsibility for action into the hands of those people who can make change. It will commit golf clubs to a vision of what golf course environmental management "ought" to be.

Australian Golf Environment Foundation (AGEF)

The *Australian Golf Environment Foundation* has been formed by the AGCSA to administer the funds derived through the *Australian Golf Environmental Initiative*.

The Environmental Initiative generates funds through commissions from the sale of the EMS e-par® and also receives donations and grants from golf clubs, organisations and trade groups involved in the golf maintenance industry.

All funds are directed to the AGEF for the express purpose of funding research projects, education programmes and study bursaries related to managing the golf course environment.

The purpose of the *Australian Golf Environment Foundation* (AGEF) is to use science and education to develop and promote golf via the management, protection, and enhancement of the environment.

Meeting of AGEF Advisory Board

The *Australian Golf Environment Foundation* has its own Advisory Board which will meet twice a year with its principle activities being;

- To determine research priorities
- To assess all project proposals for potential funding
- To review project progress and reports
- Review funding avenues



AGEF Advisory Board chairman John Odell

The inaugural advisory board meeting took place on 21 May 2008 at Royal Sydney Golf Club with the following industry representatives in attendance;

- Chairman: John Odell (GCS, Royal Sydney GC and AGCSA board member)
- Paul Hinton (GM, Royal Sydney GC and GMA board member)
- David Warwick (GCS, Avondale GC)
- David Worrall (Nuturf P/L)
- John Neylan (GM, AGCSATech, Environment and Education)

With apologies from:

- Anthony Cashmore (Society of Australian Course Golf Architects)

From the meeting the following research priorities were determined;

1. Identify and compile the available literature related to golf courses and the environment. The literature review is to identify where there is critical information lacking and to provide a guide for future research activities. Through the AGEF we have contracted Horticulture Australia Ltd to undertake this.
2. Quantify the carbon foot print of a range of golf courses (e.g. heavily treed to links style) and to develop a check list. Identify key factors to reduce carbon foot print.
3. Undertake a web-based survey of golf courses to determine the contribution golf courses make to vegetation other than turf (indigenous and introduced), fauna habitats (species identification) and wetlands.

2008 Australian PGA Championship leads by example

While Australia's leading golfers continue to set new standards on the fairways at the 2008 Cadbury Schweppes Australian PGA Championship, the PGA of Australia is leading the way off the course staging golf's first carbon neutral event.

Joining the fight are two innovative companies - e-par® and Shift2Neutral - who will assist in the quest to offset the championship's omissions.

"From the PGA's perspective, we want to be leading by example," General Manager of Commercial and Marketing of PGA of Australia John Dunlop explained.

"Step one for us is over the next couple of years to get our own house in order and make sure we're doing everything to offset our emissions and to minimise our impact on the environment. Overall that will have a very positive effect on the environment and the community and we can be seen not only as PGA leading golf but golf leading sport and the community and being real agents of change."

e-par® chief executive Terry Muir said the partnership was a "significant step forward for environmental governance

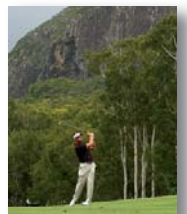


across the golfing world." "We are very proud of partnering the PGA of Australia to identify and manage the carbon footprint of a major golf event through the e-par environmental management system and excited about the PGA setting an example for others in the golfing world to follow."

Shift2Neutral boss Brett Goldsworthy is adamant the ground-breaking bid to host a carbon neutral event is achievable and fully expects other tournaments around the world will follow the example set by the PGA of Australia.

"It's a realistic model to be carbon neutral because it's not about just reducing your omissions and making sure that you are totally neutral," Goldsworthy said. "The realistic approach the PGA has taken along with ourselves is to look at every single detail from the people walking through the gate to suppliers, everything."

"I think you'll find a lot of tournaments will now move to having all their emissions offset. It's a fantastic lead of the PGA to do this and I think not only Asia but also the US and Europe will see this as a major initiative."



The Value of Environmental Compliance

Terry Muir (Environmental Business Solutions)



Being environmentally compliant does not necessarily have to be “another new thing to do”. By preparing an environmental management system is a systematic method of organizing and recording much of the day-to-day activities that occur on the golf course. Whether it is managing pesticides, putting operating procedures in place or assessing the risk of day to day activities on the golf course an EMS can facilitate that process.

While there is a cost involved it must be weighed up against the benefits, many of which have a direct dollar value.

How your club can benefit from proactive environmental management

Including the e-par® environmental management system as an integral part of golf club operations can improve business profitability. Many clubs are using e-par® to implement strategies to reduce water, waste and energy and minimise liability. Environmental management with e-par® will deliver many benefits to your club including:

Facilitating efficiency improvements:

Using e-par® you can detail resource use, waste discharges and other environmental impacts and can highlight inefficiencies. For example you can target areas of operation for cost reduction and improvements in environmental performance or encourage changes in processes to reduce resource use.

Better relations with the community:

Increasingly, the community is demanding information on the environmental impacts of golf. e-par® communication protocol helps you engage the community.

Greater control of environmental exposure/disclosure:

Use e-par® to identify and manage potentially significant environmental impacts of your operations before they cause

harm. e-par® can also help maintain and improve the ecological health of the site.

Better relations with regulators:

There is an increasing trend in Australia for regulators to adopt more flexible regulatory regimes with companies and organisations that demonstrate responsibility for environmental management and transparency over their environmental performance.

Better relations with financiers and insurers:

e-par® reporting can illustrate your commitment to improved management of environmental risks. This may lead to a more favourable evaluation by investors, lenders and insurers. It may also open access to ethical investment funds.

Better relations with staff:

e-par® can raise the awareness of staff, giving them confidence both in their own environmental responsibilities, and that they are not impacting on their local community. This can contribute to increased morale and productivity.

Creating market opportunities:

e-par® provides the opportunity to market clean and green golf helping your club improve competitiveness by establishing environmental integrity.

Security of supply:

Sound management of resources reduces the risk of golf being locked out of the resource access chain.

The end result

Using e-par® at your golf facility not only has less impact on the environment but is also better in terms of quality and marketability. e-par® provides your club with the tools and credentials to market your club as being environmentally preferable.

e-par® Case Study

The Value of an EMS at Horton Park Golf Club

Pat Pauli (GCS Horton Park Golf Club, Maroochydore, QLD)

I like most golf course superintendents am acutely aware of the environment and the influence our golf course maintenance operations have on it and on us.

I was also aware that governments at all levels had introduced legislation to protect the environment to ensure that we pass on to future generations a land that is in a better condition environmentally than what we inherited. I

had implemented some plans and had done some feel good things on the course to try and satisfy in my mind that I was looking after the environment and meeting some of the requirements of the legislation. I also knew that what I was doing was only part way meeting the requirements that the legislation required.

I have been a member of the AGCSA since it began, and believe one of the services that an association should supply

its members with are tools to make their jobs easier and compliant with current legislation. When the AGCSA and Terry Muir launched e-par® I was one of the first on board. I was able to convince my Board at Horton Park Golf Club that e-par® was a tool that would help us manage our golf course, meet our legislation requirements, keep us updated with future legislation changes and provide safe guards for both the environment and staff.

At present I am part way though compiling my EMS for Horton Park Golf Club. I found it quite gratifying to present to the Board an environmental policy that I developed with the help of e-par®.

To be honest I did not have to develop much at all because the system provides you with all the templates and tools to build what you want. All you have to do is adjust

it to suit your own club's requirements and it allows you to add your own logos and pictures to personalise for your situation.

The EMS also allows you to complete sections in any order you like. I started at the beginning and after I started I realized I could use some of the standard operating procedures to help manage and minimize any risk to the course and staff. The further I have gone the more I have enjoyed doing it and have a greater understanding of our legislative requirements and responsibilities to the environment.

It does take some time to do, but now my course renovations are finished and with the help of Dean Scullion who has recently joined e-par®, I will be trying to get it completed as soon as possible.



Horton Park Golf Club - Maintenance Facility



e-par® Case Study

The Value of an EMS at Kooindah Waters Golf Club

Before joining Terry Muir and EBS, Dean Scullion was golf course superintendent at Kooindah Waters in NSW. Environmental management was at the forefront of developing this facility and here Dean details some of the major benefits of implementing the e-par® EMS at Kooindah and what it meant for him as a superintendent.

- Reduced chemical and fertiliser use saved up to \$30,000 off the projected chem/fert budget.
- Operating e-par® made me as a superintendent consider the impact on the environment via a more targeted approach to pest control and fertilising.
- Reduced power costs by using less water than traditionally applied. This was done via the weather station and measuring my irrigation outputs in millimetres instead of time. Again e-par® was the prompt.
- Decreased areas of maintenance, e.g. roughs not fertilised meant less mowing, less fuel consumption, less manpower, less equipment maintenance.
- Recycling waste saved the operation money on waste disposal up to \$20 per bin empty as saved.
- Free newspaper articles when winning awards promoted the club, allowing marketing to spend in other areas.
- An energy audit at a golf club is estimated to save the club \$13,000-\$14,000 per year.



Kooindah Waters Golf Club

- Forming relationships with Landcare/Green Corps provided free labour to the club to remove new emerging trees from the shot line. The trees were re-planted to rehabilitate a degraded creek line in the local community.
- Positive attitudes created from the above relationships provided the club with non golfers using the facility for lunches, mothers clubs, and functions such as Christmas parties. This generated unexpected revenue and helped bring back a community feel.
- Developed a relationship with Birding NSW (Central Coast). The group provided free surveys showing 75 different species. This free information was used for marketing, in exchange the group was free to bring interested parties to look over the site when we were not busy.

It may be said that a lot of guys may be doing this already but e-par® provides the club with commitment and a change in attitude. The change allows for the above savings to be generated.

As a former golf course superintendent, that's how I got the most out of my e-par® environmental management system. It must be said that I have spent the last 10 years of my career working for resort style clubs where generating revenue from any half interesting idea was always considered, therefore my actions and priorities may be a little more commercial than the traditional superintendent.

Steve Isaacs to Visit Australia in 2009

Steve Isaacs, director of golf course management for the R&A (who are responsible for administering the game of golf in over 130 countries) is scheduled to visit Australia in September of 2009.

Steve has played a pivotal role in recent years in piloting the R&A in its role of providing best practice guidance on all aspects of golf course management with specific reference to ecological and conservation issues.

Speaking recently at a series of roadshows conducted throughout Europe, Steve was quoted as saying;

"Environmental and social issues are perhaps the leading external factors now affecting the growth of the game."

During his time in Australia, Steve will be undertaking a series of seminars on what the R&A is doing in relation to promoting environmental management and golf course sustainability, particularly in European countries where there is very tight controls on pesticide use.

Steve will also be discussing the role of the R&A and its programmes as well as the role of the organisation in the southeast Asia region.

Society of Australian Golf Course Architect (SAGCA) ~ Environmental Update



Since the issue of the 'Draft Environmental Policy Statement' presented to the Australian Golf Industry Council (AGIC) in March of 2007, efforts have centered around developing a broader framework of the SAGCA initiatives. To aid this process the Society has had a number of informal discussions with the AGCSA, most notably during the Melbourne Conference last July.

By way of background, the current Draft Statement was prepared firstly as a follow on from the "Benefits to Community and Environment" brochure, first published by the SAGCA in 1994 and subsequently republished in The Journal of the Society of Australian Golf Course Architects in 2002. Subsequent years saw the Society's efforts concentrated on evolving the annual publication of Golf Course Architecture with Issue 11 released this month (for subscriptions visit www.sagca.org.au)

In 2006, at a meeting in La Perouse, the Society once again rekindled its environmental agenda. European Institute of Golf Course Architects (EIGCA) representative Howard Swan spoke enthusiastically of their efforts in the preparation of a 'Statement of Environmental Policy', which was subsequently published in March 2007. Discussions ensued and the idea was posed to formulate a global set of environmental policies that were to be supported by all societies.

While agreeing on a common set of policies may be difficult given disparate environmental conditions, pressures and needs of each country or continent, the Society believes the process alone of communicating along these lines will foster greater awareness of the issues each of us face.

In turn this will facilitate the sharing of knowledge and inspire architects to develop new ways to address environmental issues through the design process. Furthermore, such an exchange will perhaps highlight new challenges and opportunities for the betterment of the environment, such as carbon footprint assessment and carbon sequestration.

The first step of the SAGCA was to formulate its own revamped set of policies, the beginning of this process being the adaptation of the 'Benefits to Community and Environment' brochure, which in its current form is the 'Draft Environmental Policy Statement' of March 2007. This document is under review with the final Statement to be released publicly in 2009.

AGCSA & SAGCA

Representatives of the Society attended the Australian Turfgrass Conference in July 2008. A presentation by John Neylan and Scott Petersen covered the AGCSA's impressive initiatives which also included the environment. A subsequent meeting revealed in more detail these environmental initiatives and included how the SAGCA can best partner such efforts. Currently the AGEF mission statement focuses on 'management', however, does not include the development of new courses, design process and the important role these areas play. It was acknowledged that the Society must fill this breach with meaningful contributions.

To that end the SAGCA has developed a preliminary set of environmental initiatives that contribute to the industry's collective efforts for the betterment of the environment.

Proposed SAGCA Environmental Initiatives

- Review of the current 'Draft Environmental Policy Statement' of March 2007.
- Facilitate the creation of a global set of environmental policies, agreed to between golf architecture societies worldwide.
- Production of case studies to support/illustrate the Society's environmental policies. Case studies to be published on the society website and via other associations.
- Contributions by SAGCA members to the AGCSA's environmental newsletter. The focus to be on design related environmental issues.

Other subjects to be fostered by the SAGCA

- Site assessment of green field sites to establish base line data prior development; i.e. flora/fauna, carbon footprint.
- Promote/encourage existing clubs to record more regularly their site conditions and contribution to the environment; i.e. post redesign or large changes to the landscape such as native revegetation, wetland creation.

Upcoming SAGCA events

- SAGCA/European Institute of Golf Course Architects/ American Society of Golf Course Architects ~ Sydney and Melbourne study tour ~ 8 – 15 November 2009.
- World forum of golf architects ~ St Andrews, Scotland ~ 22 – 28 March, 2010.

Each event includes a focus on the environment with the following topic headings;

- Sustainable golf course architecture.
- Water resource options for golf courses.
- Designing to create habitat.

For more information contact the Society of Australian Golf Course Architects: Paul Mogford: +613 9690 6300 email: paul@golfstrategies.com.au web: www.sagca.org.au

**Prepared by: Paul Mogford, Chairman SAGCA
Environment Committee**

Protecting Golf Course Habitats

Habitat loss and degradation are two critical factors that can impact upon the health and diversity of wildlife species. Golf courses are often criticised for simplifying, and therefore degrading, wildlife habitats or for inadequately protecting natural areas on site.

By implementing a series of management practices that protect habitat areas, a club can ensure that the course is providing sanctuary for wildlife. The following is some information presented by the Audubon Cooperative Sanctuary Program for Golf Courses.

Preventing disturbance

Wildlife, water, and natural systems can be adversely affected when golfers inadvertently traipse through natural areas, maintenance practices are done carelessly, or improperly trained golf course personnel, managers, or owners fail to implement proper environmental safeguards or sound management practices. It is the job of the superintendent, working together with employees, owners, and golfers to protect natural areas on the golf course responsibly.

There are a variety of effective means to educate people about habitat protection. Choosing a combination of strategies and repeatedly following up may be necessary to raise awareness and promote actions that do not harm the environment. Here are strategies that can be employed to assist in this.

Mount signage

One of the most effective ways to protect special habitats is to mount signs. Certain areas may warrant signs highlighting specific environmental sensitivities, while others may just warrant an explanation of your expectations (e.g., No Carts-Keep Out, like the photo above), a statement of why the area is significant (e.g., wildlife habitat; nesting area; native flora), or both.

Rope off areas

Sensitive habitat areas may need to be roped off to discourage golfers or maintenance staff from intruding. When roping off areas, make sure to inform both employees and golfers why access is being restricted.

Communicate with golfers and homeowners

Look for ways to inform people in greater detail about sen-



One of the most effective ways to protect special habitats is to mount signs

sitive habitats or species in need of protection. Many courses have successfully educated golfers via newsletter articles, bulletin board notices, meetings, and seasonal course tours.

If a residents association is involved, communicate in writing or in person so that neighbours have an opportunity to ask questions, express concerns, and remain informed and involved.

Educate maintenance workers

Routinely review environmentally sound maintenance practices with the maintenance crew. Set high expectations and follow up on careless or inappropriate practices.

Avoid disturbance to known nest or den sites

Since all wildlife species must successfully breed and raise young to survive, it is important for golf

course personnel to avoid disturbing nests, den sites, or other breeding habitat—especially during the spring when breeding activity peaks. You may choose to flag or stake ground nests or avoid thinning woods during the spring. In tall grass areas, do not mow until after young birds have left nests.

Minimise traffic

Limiting traffic in habitat areas minimises habitat disturbance and fragmentation. Route vehicular and foot traffic away from any environmentally sensitive areas. If necessary, confine cart paths to the edges of core habitats, rather than cutting paths through the interior.

Golf course activities that can inflict damage on natural habitats

- Golfers trampling native plants while searching for balls
- Carts straying into naturalised areas
- Weed trimming or mowing too close to tree trunks
- Dumping debris or leaves into ravines or wooded streams
- Removing shrub layers or leaf litter in woods
- Removing wetland, stream or pond vegetation
- Ignoring eroding stream banks
- Planting exotic plant species
- Removing trees from streamside habitats (alters water temperatures and streamside habitat)
- Improperly using or storing chemicals
- Mowing fields prior to the end of nesting season for ground nesting birds.

Jubilee Golf Club - More Than Just a Green

When we think of golf courses, it is usually as a series of beautifully tended greens and very little natural habitat, not as a wildlife haven. At Jubilee Golf Club course superintendent Andrew Heslin is slowly changing ideas and attitudes with his enthusiasm for attracting and protecting wildlife.

I first visited the course, nestled below the Warby Range State Park near Wangaratta, in January 2004 during the height of the drought and was amazed by the diversity of native animal and plant species that were thriving around the course. Turquoise parrots utilise the area for feeding and Andrew often sees them feeding on native grass seeds in winter.

He had seen the potential to improve the wildlife habitat on and around the golf course and was working towards increasing habitat areas and educating members about the importance of these areas.

The golf course contains many native grasses such as tussock grass (*Poa* sp.), wallaby grass (*Austrodanthonia* sp.) and spear grass (*Austrostipa* sp.). In addition there are many herbs, trees and grasses present. Andrew was mowing the native grasses in the rough but was planning to allow them to grow in certain areas and re-establish shrubs as well. The ecological vegetation class is granitic hills woodland which means that it contains species such as red stringybark, red box, long-leaf box, grassy tree, alpine grevillea, growing among the granite boulders.

Already Andrew had prepared an environmental management plan for the course, which recognised the need to sustainably manage the course for wildlife, and, in addition had set up an environmental committee to discuss and recommend areas which could be set managed for wildlife.

This includes actions such as allowing the native species to grow naturally without mowing, leaving logs on the ground for foraging birds and reptiles and erecting nestboxes to provide additional habitat for sugar gliders and possums. The course was awarded Working towards Registration and we discussed changes that Andrew could make in order that the golf course would qualify for full registration.

I went back in June 2005 to see what progress had been made, and was amazed at how much had been achieved in a short space of time. As you can imagine, a bright green lawn requires a lot of precious water and a golf course is no different with its greens and fairways. Andrew, however, has been able to cut the water consumption by well over a half with smarter watering techniques proving popular with neighbouring landholders. In addition he has limited the use of insecticides and uses natural deterrents such as tea-tree, eucalyptus and biological controls to limit pests such as African black beetles. He is also planning to replace the imported grasses used on the fairways with native grass.

Perhaps one of Andrew's most innovative actions has been to set up a propagating area to grow his own plants with the assistance of some unemployed people from the Work for the Dole programme. They helped to set up the irrigation system and built the greenhouse for the plants. He has been able to use these plants to enhance the environmental areas at the golf course, and just as importantly is in a position to donate some of these plants to the local community such as schools, the cemetery and local Landcare



Group. As well as improving habitat the planting also helps with small areas of erosion caused by water running from springs through the course and improving the aesthetics.

Andrew sees the education of members and the community as vitally important to the success of the works he is undertaking, both in encouraging others to follow his example and in attracting more visitors to the golf club. The Jubilee Golf Club is a wonderful example of a recreational facility in a community being able to give something back to the environment and to the community.

For more information about Land for Wildlife contact the the DSE or visit www.dse.vic.gov.au

This article was first published in the Victorian Land for Wildlife newsletter, Volume 5, No.9 – September/October 2005. Republished with the permission of Debbie Colbourne, LFW extension officer, Benalla, Victoria. Since this article was compiled Andrew Heslin has left Jubilee Golf Club. Current superintendent is Brian Leaver.

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The Australian Golf Environment Foundation (AGEF) has a range of supporter packages to suit corporate, club and individuals that may wish to contribute to fostering future research and knowledge into golf and the environment. For more information on how to become involved with the AGEF, contact John Geary at the AGCSA on (03) 9548 8600 or email jgeary@agcsa.com.au

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