

# GEO Certified® Independent Verification Report



**Golf Facility: Elmwood Golf Course**

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## Executive Summary

Elmwood Golf Course is an 18-hole course, opened in 1997 and modified to incorporate additional land in 2008. It is a multi-purpose golf facility in a very particular sense, in that it is operated both as a daily-play green fee course, and as a key teaching resource for its parent organisation SRUC, which includes a wide range of well-respected greenkeeping and golf course management courses on its curriculum. The site covers an area of approximately 51ha and was originally agricultural land forming part of the Elmwood College Farm. The topography is gently undulating and there are few large -scale woodland features, giving a predominantly open, “grassland” character to the course. The wider landscape context consists of a regular pattern of lowland arable and grassland fields, set within the valley of the River Eden, enclosed by rolling hills to north and south. The Landscape Character Type is described in the SNH Report “Fife Landscape Character Assessment” as “Lowland Hills and Valleys”. The dominant soil type on the site is a free draining sandy loam with pockets of boulder clay, which is inherently suitable for golf.

There have been a number of organisational changes within SRUC since the last verification. These have inevitably impacted on the course management to some degree, resulting in some budgetary cuts, and in continuing constraints on investment plans, causing some concern for the future. Nevertheless, Elmwood once again has demonstrated a very strong sustainability performance across all areas, comfortably meeting the GEO certification criteria. The continued commitment both to the award and the overall improvement process is clear, and the level of engagement from all members of the large team of staff involved was evident throughout the visit. Particular strengths as evidenced by the verification process include the high standard of overall environmental management planning, elimination of pesticide use on the playing areas of the golf course, progress in grassland management, and prominent sustainability leadership through Resource Efficient Scotland “Champions” status. Potential opportunities for continuing improvement in future include the emerging Landscape Vision and Landscape Management Programme, further reduction in the overall area of intensively maintained turf, and presenting monitoring data which could demonstrate an improvement in run-off water quality in passing through the golf course site.

## Nature

The wide-ranging suite of existing specialist baseline reports is complemented by the obvious awareness and knowledge within the team. Formal Phase 1 habitat and species surveys had just been undertaken in 2015 and are programmed to be

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reviewed in 2020. A Phase 2 habitat survey is also included in future budget plans (2019).



There has been no change to the status of designations on the site – no extant landscape or nature conservation designations exist.

The standard of management of the extensive woodland, wetland, and grassland habitats on the site (totalling over 21 hectares) remains high. The Golf Course Operational Plan and ISO 14001 Environmental Objectives documents provide detailed long term and short term aims, objectives and actions for all significant habitats and landscape features.

Additional habitat creation since 2015 is recorded, including Wild flower planting, Bug hotels, Hibernaculum for amphibians, and Squirrel feeder. Detailed targeted plans exist for further measures including native tree and shrub planting, sand scrapes, and nesting boxes for owls, raptors, and red squirrels.

Grassland Management: very significant progress has been made with all areas of long rough now cut and baled. Around 75% of areas were covered in 2017 (repeated in 2018) through an arrangement with a local farmer/club member. Course staff are also contributing when time allows with work on the additional smaller areas. The efficiency of this work has been increased with a change in mower type away from flail mower, and purchase of a rake to gather arisings.

Landscape Vision: a draft “Landscape Management Programme” written in partnership with Elspeth Coutts is now almost complete. This report includes an excellent detailed description of the overall landscape context and internal Character Zones, together with clear long-term objectives linked to a rolling three-year action programme. The landscape actions are also cross-referenced within the Nature section of the Operational Plan.

Soil Fertility: as noted above the cut and bale measures are already showing results. There have been no significant opportunities for additional topsoil removal since the last report.

Tree planting strategy: this is being addressed as part of the Landscape Vision work to provide a more coherent visual structure and enhance habitat connections. Opportunities to involve local schools and volunteers in planting operations are being realised. Advice has been received from the Woodland Trust and a recent donation from them of over 400 trees of native species was noted during the visit.

Course presentation and playing experience: this is a clear overarching/ongoing aim and has been integrated with the Operational Plan in a number of areas. The customer survey noted in 2015 has not yet been repeated, but is under consideration. Feedback on the course condition both on course and via social media varies - as is to be expected at all clubs! - but recent positive comments on grassland management have been encouraging. One minor presentational change which is saving maintenance resources is a change in mowing pattern away from diagonal striping to simple tee-to-green. The number of

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bunkers has been further reduced (9 more removed, mainly from existing “clusters” of fairway bunkers) and the size of others has been reduced by re-shaping work, without unduly impacting on the playing challenge, while making significant resource savings.



Course Policy Document: work on this had been commenced in 2015 and is still ongoing in conjunction with Elspeth Coutts. The target for completion is end of 2019. The aim is to exceed the standard required by the R&A Template.

The relatively large absolute area of intensively maintained turf for an 18 hole course (35.31ha), and the percentage of the site this represents, (c.60%) is balanced in resource consumption terms by the extremely low area and proportion irrigated (1.76ha, representing less than 5% of the maintained turf).

Species composition on greens again showed steady improvement: the Poa fraction has declined from 50% to 40%, with a corresponding increase in Bent/Fescue. For tees and fairways, the respective percentages remain very acceptable for a facility on this type of soil substrate: 70% Bent/Fescue on tees, and 80% on fairways, the remainder in both cases consisting of Poa with a small Ryegrass fraction. Semi-rough composition is reported as 30:30:30 Bent: Fescue: Ryegrass, with 10% Poa species. This compares with a predominantly Fescue: Ryegrass mix reported in 2015.

A detailed IPM policy was prepared in 2015 and this has been reviewed and updated in 2017.

Elmwood is notable for having completely eliminated the use of pesticides and growth regulators on the golf course areas in this certification period. A small quantity of systemic herbicide (in three applications) is still used to control weeds on paths and other hard surfaces. The aim is to reduce this to a single application and eventually to reach the target of overall zero pesticide use by 2020, as stated in the Environmental Objectives document.

The total weight of nutrients applied to greens and tees in 2017 (c.476kg) is greater than for the last reported year in the 2015 certification (c.344kg in 2014). No fertiliser was applied to fairways or roughs as for the previous period. The proportion of organic fertiliser use has declined to around 10% for N and 5% for P and K – this decision follows recent research evidence that the impacts on water bodies and watercourses were reduced by the liquid feed used. (This has been validated in practice by the water quality testing results for the existing ponds).

The new OnCourse platform does not include pollution prevention in the Key Data section. All major systems and measures verified in 2015 remain in place and continue to meet the required standards.

An overflow cut-off valve was fitted to the Waste2Water system as recommended through the ISO 14001 audit.

Bunding has been completed to the fuel store.

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The Course Manager reported anecdotally that there has been increased reed growth in the chemical attenuation ponds with corresponding reduction in the algal blooms on all water features, especially given the very warm drought conditions in summer 2018.

Sampling: The recommendation for sampling of inflow water to validate improved quality across the course has been followed up and results obtained from SAC Analytical Services (as uploaded in the File Storage section). Unfortunately the methodology used does not yet allow a clear demonstration of improvement from inflow to outflow (although it does show that there are no toxic inflows from the existing cundy leading on to the course, and that no contamination of the ponds is occurring from on-course runoff). This issue has been addressed and Elmwood anticipate more meaningful results in 2019.

### Resources

The sources of water remain as for the previous certification, i.e. borehole for golf course irrigation, potable mains for clubhouse and maintenance centre, with some recycled water used in the waste2water system

No reduction in overall consumption is reported from 2016-2017. Consumption volumes for the last 3 years to 2017 are available. These indicate that golf course use rose from 880m<sup>3</sup> in 2015 to 2380m<sup>3</sup> in 2016 and 2530m<sup>3</sup> in 2017. (This latest figure however is not excessive and is at the lower end of the range of volumes recorded for other GEO Certified 18 hole courses in Central Scotland). Potable mains use also rose from 1393m<sup>3</sup> in 2015 to 1706m<sup>3</sup> in 2016 and 2185m<sup>3</sup> in 2017.

A new shed was constructed in 2015 to house the irrigation pump. Upgrading is overdue but to date budgetary constraints have precluded implementation.

Consumption savings: The 2015 Savings Finder Reports by RES contained recommendations for further standard improvement measures including to taps, toilets, and showers. These have now largely all been implemented - it was confirmed that upgrading of taps, showers, and toilets has been completed in the clubhouse, and that work is in hand for similar work to the Maintenance building.

Auditing: More detailed spreadsheet data are now available and some interesting trends are shown as reported above. In addition, these have recently appeared to indicate that the maintenance centre mains consumption has been exceeding that for the clubhouse, a puzzling result, possibly caused by a leak, which is currently being investigated.

Aquifer Recharge: This issue has been pursued with SEPA and a satisfactory result obtained. SEPA have confirmed in correspondence that the borehole abstraction licence takes account of sustainable recharge, and that the permitted volume will be reduced if required should an adverse impact be detected. A SRUC student thesis on this topic is being undertaken and it may be possible to refer to the findings in the subsequent report.

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Rainwater harvesting: the feasibility of a project was investigated but has not been included at present in any budgetary plans. A water butt is used to supply water for a new herb garden at the clubhouse.

A small reduction of 3% in overall energy consumption was reported for the period from 2016-2017.

Monitoring data have continued to be refined and a spreadsheet giving monthly breakdown between units consumed by the irrigation pump, clubhouse and proshop is now available.

There have been no significant changes in energy sources over the current re-certification period, and the facility continues to rely wholly on non-renewable sources.

Usage of non-renewable/fossil fuels remains largely stable: some minor adjustments in proportions of diesel versus petrol consumption were noted. Electric strimmers are currently being trialled.

The solar PV panel project has not been pursued. Quotations were obtained but the proposal was turned down at management level.

Efficiency savings: The clubhouse boiler has not yet been replaced. The maintenance centre boiler has been replaced during the period. The additional insulation to the maintenance centre roof has not yet been implemented.

Green Team Targets: The Green Team is now well-established and membership includes 70% of all staff on site. Targets and completed objectives are integral to the GEO and ISO 14001 programmes. An Energy Action Plan is included in the Golf Course Operational Plan. Completed objectives are recorded in the Environmental Objectives report.

Estimates for recycling are produced using the Scottish Golf methodology. No figures are available for Dry Mixed Recycling at present.

The SRUC Environment Policy 2018 includes the statement that procurement is in compliance with the Procurement Reform (Scotland) Act 2014 Sustainable Procurement Duty, and that Whole life cost (production, use and disposal) is always be considered when procuring goods or services.

The wormery for composting kitchen food waste installed in 2014 is operating successfully and continuing to provide valuable compost teas for application directly on to playing surfaces as appropriate. The Environmental Objectives Report includes the aim of ultimately passing all organic wastes through the wormery. Unsuitable food waste is currently collected for recycling.

Zero Waste target: The Environmental Objectives Report includes the aim to make the golf course a 'zero waste' site by 2020. While staff are

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confident that landfill quantities are reducing and recycling increasing. accurate assessment of the degree of progress towards this target is currently limited by the availability of data, see below.



### Community

Community linkages are undoubtedly a key strength of Elmwood's sustainability profile, with the Clubhouse remaining a significant local asset and the hub of many social activities.

Full-time employees are down by 1 to 10 over the certification period (loss of assistant course manager), but Part time/seasonal employment is up by 3 to 11.

Rounds played are largely stable, which is regarded as positive in the current commercial environment.

Footgolf was introduced in 2018 (on the back 9 holes on Friday and Saturday evenings and afternoons only). Participation records are available, with some conflict with members noted

Attempts continue to grow the female and younger age groups participation generally, with the proportions remaining largely static over the period.

Elmwood Golf students continue to provide free coaching for juniors.

Course walks led by Green Team members continue to prove popular, particularly with Societies from within Elmwood Golf Club.

Customer Survey: the survey undertaken in 2013 was largely positive and produced useful information to help target improvements. It had been planned to repeat the survey in 2016 but this has not yet been implemented.

### Conclusion

I, Mike Wood, independent accredited verifier, recommend that Elmwood Golf Course be awarded the GEO Certified ecolabel. The key strengths of Elmwood highlighted by the verification process include:

- A very high standard of overall environmental management planning, including clearly structured Environmental Objectives, underpinned by renewed ISO 14001 certification until 2021
- Complete elimination of the use of pesticides and growth regulators on the golf course
- Preparation of a strong and coherent Landscape Vision report, which provides a long-term framework for improvement work both to the course and its setting

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- Continuing progress in grassland management, showing reduced fertility and improved biodiversity of long rough areas
- Ongoing monitoring of water quality in ponds and watercourses
- Outstanding sustainability leadership through status as Resource Efficient Scotland Champions
- Continuing strong community linkages, facilitated by a busy and “open” social environment in the clubhouse
- Presentation of a strong group of OnCourse “Highlights” projects, covering a wide range of topic areas
- Attention to detail in the use of the OnCourse platform itself, with accurate and comprehensive record-keeping systems, and availability of up-to-date data.