

John Lelean reports on the recent conference at St. Andrews which gave rise to some serious predictions about coastal erosion

On course for change

At Turnberry, fencing made from chestnut paling is staked into the top of a threatened dune to help prevent erosion



The aptly entitled 'On Course For Change' conference at St. Andrews in February brought together a group of the most powerful and influential representatives ever assembled in European golf.

Course Managers mingled with secretaries, architects with constructors, head greenkeepers with environmentalists and there to keep the pot boiling was Michael Barratt of Nationwide fame, whose chairmanship ensured there were few dull moments.

His searching questions to the array of speakers during the two days was a replica of his professional performance before the BBC cameras and even Michael Meacher, the Minister of State for the Environment did not escape a friendly 'grilling' on government policy.

The R&A, who sponsored the event can feel justly pleased with its success, not only from their choice of subjects and speakers, but the depth of knowledge stimulated by contributions from the floor.

BIGGA's newly elected President Sir Michael Bonallack, the current Captain of the R&A, ably set the scene on the opening day. He said the conference was set-up to identify the real facts that will affect the management and maintenance of golf courses in the light of climatic change.

It was not the time for decisions, but discussions, utilising the wealth of expertise gathered in the body of the hall.

Within minutes John Pethick, a professor of marine science at Newcastle University had the conference intrigued and stunned with his predictions of impending disaster to many of our more famous links courses as a result of climatic change.

Temperatures, he said are already showing a significant rise and this in turn is increasing the height of sea levels. Warmer, wetter winters and dryer, hotter summers have been recorded in recent years and the trend will continue.

He added that coastal courses are most at risk, particularly those links on estuaries such as St. Andrews

This theme was developed by Dr Mike Hulme from the University of

East Anglia who with some impressive graphs and statistics showed how since the 1980s excessively cold spells in winter had halved and conversely the hotter summer days had increased.

Sea levels had already risen around our coasts of between 15-20 centimetres in the past 20 years, which predicted a further sea level rise over the next century of some 30 centimetres higher than it is today.

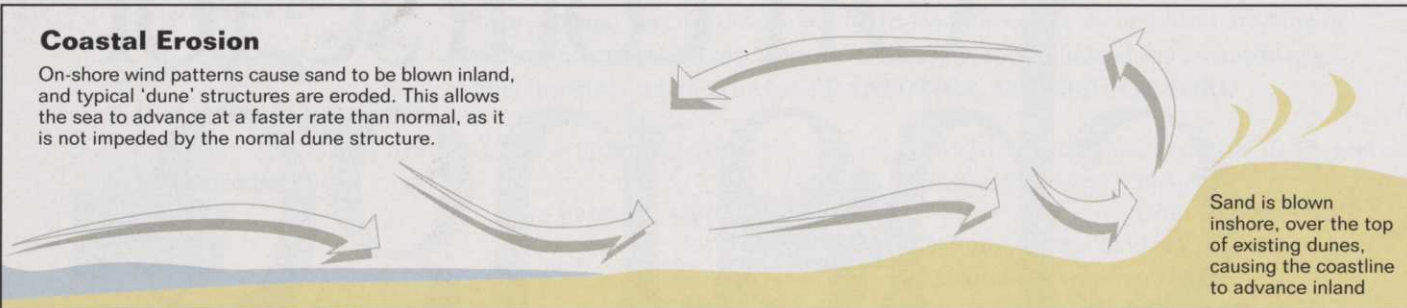
Storm surges accompanying heavy winter rain could produce high tides five times the current expected levels and even if there was an immediate reduction in the production of greenhouse gases, it will still take hundreds of years for nature to repair the damage already done.

Inland courses were also warned of the dangers facing them. Although they would not be eroded by the sea,

On course for change

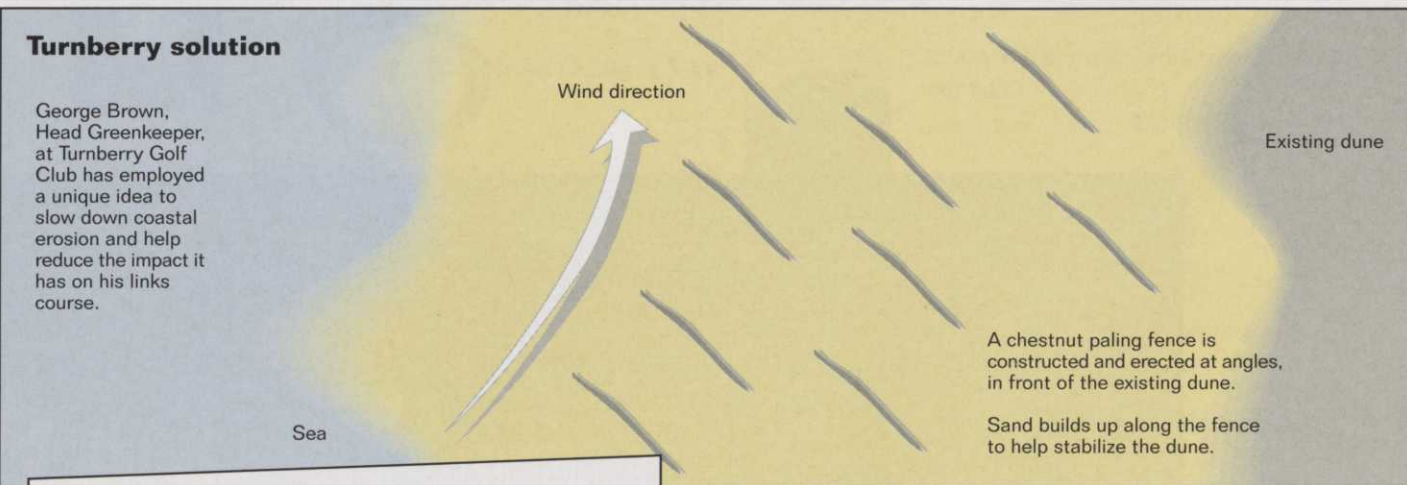
Coastal Erosion

On-shore wind patterns cause sand to be blown inland, and typical 'dune' structures are eroded. This allows the sea to advance at a faster rate than normal, as it is not impeded by the normal dune structure.

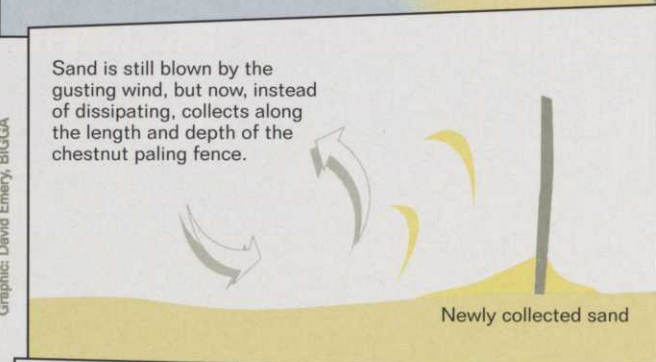


Turnberry solution

George Brown, Head Greenkeeper, at Turnberry Golf Club has employed a unique idea to slow down coastal erosion and help reduce the impact it has on his links course.

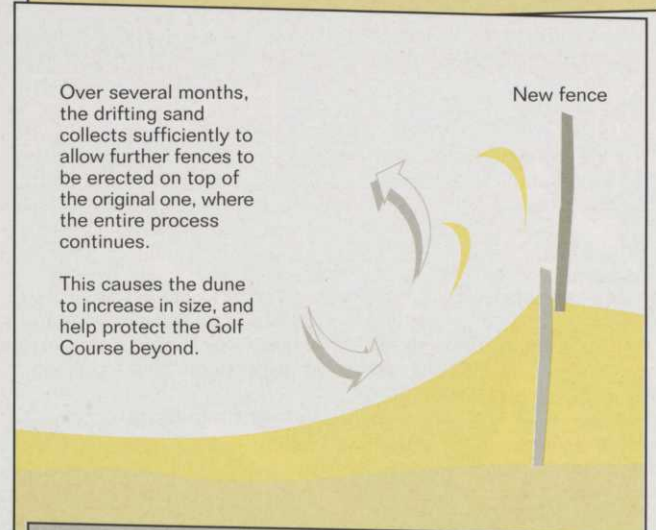


Sand is still blown by the gusting wind, but now, instead of dissipating, collects along the length and depth of the chestnut paling fence.



Over several months, the drifting sand collects sufficiently to allow further fences to be erected on top of the original one, where the entire process continues.

This causes the dune to increase in size, and help protect the Golf Course beyond.



George Brown's unique erosion defence system has been in place for over 6 years at Turnberry. Before the installation, drifting sand coming onto the links course was a major problem. Now however, virtually no sand is visible on the course, and the erosion is minimal. George estimates the cost for replacing the fencing every year is approximately £750 - £1,000.

worms will dig deeper in the hotter summers, but be more active in warmer wetter winters.

He also forecast an increase in the rat population, more wasps and slugs, greater mole activity and in uncultivated grassland weeds would flourish, particularly ragwort and thistle. Even the heathlands would not escape, heather will die back, heather beetles more numerous and bracken will take over the vacated ground.

The culprit he explained, was man's method of energy production, in other words, higher levels of carbon dioxide and methane gas in the atmosphere producing the greenhouse effect.

Although some of the sceptics viewed this prediction of doom and gloom like a page from Old Moore's Almanac, it stimulated a lively discussion after John Pethick, developing his examination of coastal erosion suggested that money spent on sand dune defences was akin to throwing cash into the sea.

He inferred that like King Canute, golf courses could not hold back the tide, no matter what defences they erected, be it rock, concrete or any of the various schemes tried at St. Andrews, Brancaster, Crail or Hayling Island.

His solution was that where links are under threat they should accept they will lose holes to the sea and re-build others where the moving sand has created new dunes.

Armoured defences were not sus-

tainable, they merely stop the sand coming in and prevent the dunes reacting to changing sea levels. Instead he proposed the migration of holes, employing a flexibility of architecture to suite the situation.

Among links most at risk was the Old Course itself, where the Eden estuary is widening, undercutting the defences built over the past three hundred years. His prediction was that in time the par-3 11th will be washed away and probably the 12th tee.

The reaction of Sir Michael Bonallack, quoted in the following day's issue of the Glasgow Herald, was - "To move this hole would be like repainting the Mona Lisa. I think there would be utter dismay throughout the world of golf... I hope it does not happen in my lifetime".

The Royal West Norfolk course at Brancaster, the venue of a seminar to discuss the wider aspects of coastal erosion last October, prompted the identification of a major conflict. This was the lack of agreement between various government bodies and singled out for special criticism was English Nature, who it was alleged were a 'bureaucratic spanner in the works' pursuing their own agenda regardless of the consequences and the interests of others.

They were accused of adopting a policy of preservation rather than conservation, though this was denied by Keith Duff, representing English Nature, who softened antagonism from the delegates with the confession that



he was one of a rare breed of environmentalists by also being a golfer!

Some decisions emanating from the European Parliament also attracted the wrath of many, who felt much of the legislation was draconian and unnecessary.

It was at this point there was a suggestion that the R&A could play an important role where there appeared to be unresolved differences, a mantle they were quick to accept, despite Sir Michael's earlier comment that the conference was for discussion not decisions.

Throughout the two days of intensive debate, the conference discussed irrigation, changing pesticide legislation, planning problems and the recently launched 'Committed to Green Foundation', headed by David Stubbs. This is the organisation that has taken over the role formerly held by the European Golf Association Ecology Unit. (Note - See last month's interview with David Stubbs by Scott MacCallum).

Committed to Green is currently funded by the R&A, the European Tour and the European Golf Association to promote environmental awareness in golf course management and design and construction, but Stubbs said he believes it should have a wider base, encompassing more sports than golf.

He told delegates that an approach had been made to the football authorities, which prompted Chris Kennedy, Wentworth's Course Manager to ask what common interests he had identi-

fied between golf and soccer.

Many felt that by expanding into other sports it would dilute the effect the organisation had set out to achieve in the Valderrama Declaration, though this was not accepted by some of the European representatives.

A Belgium representative said that what is lacking in the UK is a National Ecologist. The continentals would like Committed to Green to be expanded into other sports to give golf a bigger and better profile.

To close what had been two stimulating days, Michael Meacher, Secretary of State for the Environment, left the Commons early on Friday to give the conference an update on how the government were tackling the effects of climatic change, new pesticide regulations and pending legislation on water abstraction.

He said, referring to questions on coastal erosion, he accepted there was conflict on occasions between various departments under his control and agreed at times local officials used the written rules rather than the guidance notes.

Asked how clubs should react when met with bureaucratic intransigence, he suggested there was always a higher authority and if that did not work, take the matter up with a local MP. Finally he added, one can write directly to me.

Summing up, Mr Meacher said the way forward must be by consultation, not legislation. The R&A are in the van of environmental protection. ➔

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NOTES

Water

Water is a commodity that we in Britain take for granted, though perhaps it is opportune to reflect on Thomas Fuller who wrote in the mid 17th century - "We never know the worth of water until the well runs dry".

Golf course irrigation, relatively new, but now regarded as essential will have to adapt to changing conditions. Mains water surprisingly used by two thirds of UK courses is certain to become far more expensive or discouraged altogether, extraction licences are to become 'time limited' and even where courses have their own supply such as bore holes it is likely amounts will be strictly controlled.

The predicted warmer, wetter winters will provide the opportunity for water storage and this is to be the government's policy, either held in lakes and ponds or perhaps underground tanks.

There could also be a trend to use re-claimed sewage effluent, where the quality of the water is quite safe for irrigation, but below the standards required for drinking. It also has the advantage of being far cheaper even when delivered by tanker into storage tanks.

Robin Hume suggested water costs can be cut dramatically by conducting an audit on annual usage. How much do you use? Are there any leaks on the

system? Are the sprinklers spaced correctly? Is there surface run-off when the system is operating?

He said an on site weather station can prove invaluable in saving water or failing that greenstaff should have access to up to date predictions of rainfall from their local meteorological centre.

And food for thought from the floor... It was reported that Hayling Island golf club have a 15 acre lake to meet their irrigation requirements. They also have a tangible investment with an annual income of £12,000 from the sale of fishing tickets to local anglers!

Turnberry

Put a highly experienced greenkeeper on the rostrum and invariably there will be a great deal of sense. Make the speaker George Brown, Turnberry's highly thought-of Course Manager and the presentation will be educational and not without some sharp witted humour.

Brown's two courses on the Ayrshire coast are quite unique. Twice these links have been torn up to build airfields, firstly during the 1914-18 war, then again in 1939 and with the construction of three concrete runways for U-boat hunting bombers it seemed that golf at Turnberry was doomed for ever.

It was Frank Hole, a British Transport executive who fought the government for sufficient compensation to re-build the links and this he did with Mackenzie Ross, recreating first the Ailsa course and then the Arran, putting on the map two of the finest golf courses in the world.

So good in fact, that had the Ailsa not been there, the Arran would have been more than a suitable venue for

the Open Championship.

Turnberry has had several owners since it was sold off by the railway company, but that long low glittering white hotel with its distinctive red roof still attracts golfers from all over the world.

As George said, 45,000 rounds of golf a year and as a round is now exclusive to hotel guests, they are always looking for that final game before flying to Japan, Australia or the USA, even if it means a 6.00am tee-off.

Maintaining two courses to a standard of perfection for twelve months in the year creates problems. His answer is aeration to greens, tees and fairways to minimise compaction, though if he adopted the usual method of tackling a green at a time with a hollow corer followed by top dressing, play would be disrupted.

His solution is to work on three greens at the same time, but only hollow tine half of the putting surface, leaving the remainder for play to continue. By this method he can complete

a course in 12 days and still keep play continuous without resorting to alternative greens.

Similarly he has adapted his verti-drain by adjusting the gears and altering the tine spacing to produce holes between 2 - 3 inches apart to cause less disruption to the surface. Slitting is undertaken on all the greens at least once a month.

Taking up Professor Pethick's argument that nature must take its course and nothing will stop the eventual erosion of the dunes, George showed how he has successfully harnessed wind and sand with the aid of simple, cheap chestnut paling.

The fencing is staked into the top of a threatened dune at an angle and as the sand builds up and covers the fence another is erected on the top. The dune then becomes stabilised with up to four fences buried in the sand one on top of the other.

This would seem to be a method that could usefully be tried on other links with similar problems.

Pesticides

Pesticide use has been increasing condemned by the 'Greens' as nothing more than chemical warfare on the environment. A description put with fervour and feeling by Mark Davis of the Pesticide Trust.

His view, certainly not shared and which most believed was totally overstated, was that the hi-tech courses rely more and more on pesticides without considering the alternatives.

He said that world-wide there were over 1,000 chemical products that had been approved and used, many containing acute toxicity which in the long term can produce chronic health affects. He added that in the UK there were 72 chemicals being applied to the

environment which were suspected to be endocrine disrupters or in other words can cause cancer.

His argument was for organic methods rather than chemical, though he appeared to have few solutions to worm control and none at all to an invasion of leather jackets.

Woodhall Spa's Peter Wisbey, no doubt with tongue in cheek, suggested the use of a fine tines perhaps with barbs for spearing, though George Brown thought closely spaced deep slitters could be more effective!

The research requirement by COSHH of all new products was highlighted by Richard Minton, Scotts Marketing Manager. He said it

required up to ten years research and millions of pounds investment extending to 100 individual tests before a new product satisfied European law. This could be a valid reason for the high cost.

The agricultural industry was by far the largest market for pesticide products, accounting for 97% of the products sold. Amenity and private gardens took up the remaining 3%, with gardens taking the larger share.

With these figures one can but wonder why golf courses are believed to be such pollute of the countryside, especially when on an average sized course of 120 acres it is only the greens and tees that receive a chemical application.