

# Assessment of Selective Holes in respect of identifying & developing Operation Pollinator habitat



St Andrews Links Trust

Report Date: 17<sup>th</sup> September 2012

Consultant: Bob Taylor



STRI is completely independent and has no alliances to commercial products, services or contractors. This ensures that our design, project management and advisory services provide the best solutions for each individual client.

If you have any queries with regard to this report please call +44 (0)1274 565131

Report Title	1 <sup>st</sup> visit to St Andrews Links Trust on behalf of Syngenta's Operation Pollinator Initiative.
Sports Facility Name	St Andrews Links Trust
Date of Visit	17 <sup>th</sup> September 2012
Visit Objective	To determine suitable areas to develop operation pollinator habitat with recommendations and guidance as required.
Present	Mr Gordon Moir – Links Superintendent Mr Gordon McKie – Old Course Manager Mr Bob Taylor – STRI Ltd

## Introduction

Two large areas of grassland on the Eden course, have been identified to expand the extent of pollinator grassland. These areas lie to the left of the 12<sup>th</sup> and left of 17<sup>th</sup> holes (the latter bordering the practice ground). The area assessed to the left of the 2<sup>nd</sup> hole (Eden), and that to the left of 12<sup>th</sup> hole (Strathtyrum), were ruled out for now but could be brought into the programme going forward.

The areas chosen are sufficiently off line but still close to everyday play to be visual to golfers and signage could be installed strategically to advertise the interest. Both areas support a mixture of grasses including fescue, bent and false oat grass and Yorkshire fog. The area left of the 12<sup>th</sup> supports the following forbs; yarrow, ribwort plantain, broad leaved dock and common vetch. The area to the left of the 17<sup>th</sup> supports yarrow and an obvious increase in cocksfoot.

We agreed given the severity and density of growth through the area adjacent the 12<sup>th</sup> hole that scarification intensity should be increased from 40% to 60% to ensure sufficient thinning of the sward.

Through both areas flail the grassland to 50 mm, ensuring all arising's are collected and discarded. Run the flail/collector over the areas to lift the grass and ensure all clippings are collected. This operation will ensure that the grass is standing up prior to the application of the graminicide Rescue. Providing all of the above is undertaken prior to the end of September, Rescue could be applied at the high rate of 1.3 l/ha, this will need to be applied evenly and in strict accordance with the label and manufacturers recommendations. Leave the areas for 14 days before returning to scarify aggressively. The scarification work should be sufficient to lift the underlying fibre with the aim being to create between 40 and 60% bare ground. Remove all arising's, these to be at least in part included within any composting programmes, the remainder could be either mixed with bunker sands, hollow cores etc and composted or indeed burned if local bye-laws permit.

On completion of the above over seed using the links seeds mix at a rate as indicated below. The seed is available through Emorsgate Seeds (see below). I understand your preference would be Scotia Seeds which is acceptable to Syngenta.

Note: If the seed is to be sown out at 0.5g/m<sup>2</sup> then you will require 2.5 kg of seed, this being sufficient to cover 0.5 ha. Given the very small amounts of seed, it will be necessary to bulk the seed with top dressing or sand.



EMORSGATE SEEDS

Limes Farm

Tilney All Saints

King's Lynn

Norfolk

PE34 4RT

Telephone: (01553) 829028

FAX: (01553) 829803

E-mail: [enquiries@emorsgateseeds.com](mailto:enquiries@emorsgateseeds.com)

No additional management intervention will be required this year, but it will be necessary to monitor both areas during the early spring of 2013.

If any aspect of your ongoing management work is unclear or requires further clarification please do not hesitate to contact me.

Signed

A handwritten signature in black ink. The signature consists of the letters 'R' and 'S' followed by a stylized, cursive name that appears to be 'Taylor'. The signature is written in a fluid, connected style.

Bob Taylor

Ecology & Environment Manager

## Media Release

### **John O’Gaunt golfers get to see the birds and the bees**

Greenkeeper Steve Thompson has hit the magnificent seven with his wildflower establishment at the John O Gaunt Golf Club. All seven native perennial species sown as part of the course’s Operation Pollinator habitat creation have flowered in their first year – an exceptional result that is testament to the techniques he’s employed.

And despite this season’s dull, wet summer conditions at the Bedfordshire club, the area has been alive with the buzz of bumblebees and other pollinating insects that have been attracted into the area. Sited between the fairways of the 6th and the 13th holes of the long established John O’Gaunt course, the attractive wildflower area is clearly visible for players teeing off either hole.

Working with Course Manager, Nigel Broadwith, Steve said the area was especially selected to be where it would be seen by lots of players and to create a focal point that would raise awareness of all the environmental work being undertaken by the greenkeeping team. “We wanted an area that would be an integral part of the golf course and a part of the experience of the players’ round, but was also out of play rough that would be relatively undisturbed,” he said. “Being close to the tee it would take a really wayward shot to end up in the wildflower area. But it creates a lovely sight and added interest to discuss as they set off down the fairway.”

John O’Gaunt club member, Phil Cottier, believes the initiative has been highly successful in generating interest among players. “The quality of the greens and course remains the key factor, but if you’ve had the extra pleasure of playing in a natural environment and having been part of an initiative to encourage wildlife, then it makes it all the better.”

Having had a long-standing interest in birds through his work career with the RSPB, Phil is now enjoying learning more about the bees too. “Most of the members that I’ve played with do have an interest in the environment and what the Club is doing. If we see something interesting during a round it adds an extra dimension to what we get out of the game,” said Phil. Although he acknowledges that is more for some players than others.



He believes the information boards put up by Steve and the team and articles in the Club newsletter have been extremely useful in keeping players informed of what has been done and what Operation Pollinator is looking to achieve. “But it is important to keep members up to date with what’s going on, especially any successes that have been achieved,” he added.

### **Club support**

Steve reports that he has been highly encouraged by the response from members and by the Club’s managers, for whom the environmental assets and features of the course can be a positive attraction for members and visitors. “We were very aware that we didn’t want a flower area that would look artificial and contrived, but would be an attractive addition to the course. By selecting native perennials that would typically be found in a parkland setting, the effect has been to inject some colour and interest that looks entirely in keeping.

“As we establish more wildflower areas around the course, the aim is that it will add to the experience of playing in a natural environment,” he said. Steve is also looking to add to the wildflower mix with other species that would naturally occur and thrive in the area, which will provide additional sources of pollen and nectar. Areas of harebells that are doing particularly well on the course will be extended, for example.

The three suggested Syngenta Operation Pollinator wildflower mixes - for parkland, heathland or links courses - have all been selected to provide a core of wildflower species that are known to be robust and relatively easy to establish under a range of conditions. However, he welcomes the fact that it is not a strict prescription and can easily be supplemented with other species deemed to be desirable on any course.

### **Establishment guide**

Steve recalls that the establishment guidelines provided at an Operation Pollinator training workshop and on the initiative’s website gave valuable practical pointers to what he should be doing. “Actually seeing the extent of the scarification required to create the seedbed, with 60% to 70% bare soil, was quite dramatic - but gave us the confidence to try and achieve it in the autumn,” he added.

The designated area was cut back in October and then scarified with the Club’s own machine. Steve then sub-divided and mixed the seed with dry sand, which he hand-spread across the surface. Although a relatively slow process, it was this attention that may have been key to his success; as wildflowers simply shed their seed on the surface he mimicked their natural process, when drilling into the soil would have buried most seed too deep to germinate.



The open autumn of 2011 and warm soils through November and December certainly helped with early seedling establishment. However, it also meant there was competition from thistles and thick grass in some patches. Steve took the decision to trim back these patches aggressively in the late spring, to look neater and avoid the thistles setting seed. In fact, this also served to encourage the sown perennial native wildflowers to tiller and spread – making them thicker and even more successful in these areas. This technique of repeated cutting in the first year can prove especially useful to establish perennial wildflower seed mixtures, which go on to perform better in subsequent years.

Where thick coarse grasses continue to threaten wildflower establishment and create dense, thick unplayable rough, Steve is planning a spring knapsack application of Rescue herbicide to encourage fine, wispy Fescue grasses – which are also more attractive to spiders and other insects.

Some bare patches do remain where no wildflowers or other seeds established. It is clearly evident, however, that these areas bare areas were associated with very thick thatch and high levels of organic matter at sowing . The likelihood is that these areas dried out in the early spring and prevented the wildflower seedlings from establishing. This has reinforced the importance of deep scarification to remove organic matter during the seedbed preparation process, to ensure surface soil contact with the seed. The scarification can also trigger the germination of wildflower seeds that occur naturally in the soil seedbank.

However, all is not lost in these bare patches, since seed shed from the sown plants this year will spread and fill the gaps in future years as the thatch breaks up. Also, many of the bumblebee and mining bee species that have been active in the new habitat require areas of dry, bare soil in which to burrow and make nests for their winter survival.

Steve Thompson's Top Tips for wildflower success:

- Cut back hard and remove existing vegetation
- Don't skimp on the scarification – aim to expose 60% bare soil
- Mix seed with dry sand to make it easier to spread
- Add wildflower species that you know thrive on the site
- Sow the seed mix on the surface; don't drill or bury seed
- Don't be afraid to cut back the area in the first year
- Consider Rescue to remove coarse grasses if they compete
- Cut and spread wildflower seed heads in the late summer
- Cut and remove all vegetation in early autumn
- Use cut seed heads to spread wildflowers into other areas



## **Exceeding expectations**

Steve does admit some relief that the area has established so well in its first year. “We were well aware from previous attempts at wildflower establishment that it may take a few goes to get it right, but it has already exceeded our expectations.

“There was certainly some scepticism among the greenkeeping team with results during the spring. But as it has come into flower over the summer it has become something we are all taking pride in. It fits really well with all the environmental work that we were doing for the birds, and now the bees.” Over 120 bird nest boxes have been put up around the course, including designs for Barn Owls and songbirds that will also benefit from the habitat creation.

During one morning in August, five different bumblebee species could be seen actively foraging among the wildflowers in the Operation Pollinator area, along with numerous other pollinating bees, hoverflies and other insects. A summer social evening for golfing members and their families to look at bee identification and explaining the role of Operation Pollinator and other environmental initiatives on the course is now being considered to further build on player engagement with the project.

## **Expanding area**

Steve and Course Manager, Nigel Broadwith, have already earmarked further areas where Operation Pollinator wildflower mixtures could be established on the Bedfordshire Club, which is one of the UK’s largest private members’ clubs with two courses, totalling over 12,000 yards.

Conscious of the cost implications of buying seed, they are now looking at the potential to gather seed from a late summer cut of the existing area, to spread onto further areas that will be first cut down and scarified. Having thinned out the rough with cutting, removal of clippings to reduce fertility and the use of Rescue to produce more open Fescue swards along with the introduction of wildflowers, it is hoped that a single cut and removal of clippings in the autumn will be all the future management required.

Nigel added: “We are always seeking ways to manage rough more cost effectively, especially after the difficult conditions this year. If we can create areas that can be managed more easily, whilst also creating features that are more attractive to players and wildlife and that doesn’t have any adverse effect on playability of the course, it is a real win for all involved.”



## **Operation Pollinator initiative**

Operation Pollinator was set-up by Syngenta to help golf courses across the UK and Ireland to provide essential sanctuaries for bumblebees and other beneficial insect species. Environmental enhancement of relatively undisturbed out of play areas can provide the perfect location for immensely valuable ecological habitats.

The project's support initiatives give greenkeepers and golf course managers the tools and skills to successfully and cost effectively establish and manage attractive wildflower resources that are crucial for bumblebees and pollinating insects.

Operation Pollinator ably demonstrates that intensive management of golf course playing surfaces to provide the best possible playing conditions can be achieved alongside positive environmental management for ecological gain – to enhance and advance the overall playing experience.

Guidelines and practical advice has been developed in conjunction with specialist ecologists and agronomists from the Sports Turf Research Institute (STRI).

New opportunities that Operation Pollinator creates for golf clubs include:

- Generates immense pride in the course
- Provides an enhanced playing experience
- Improves visual appearance
- Creates valuable positive publicity for the club
- Produces beneficial results up to 60% faster than conventional management

For further information visit the website: [www.operationpollinator/golf](http://www.operationpollinator/golf) or [www.greencast.co.uk](http://www.greencast.co.uk)

### For further Press Information please contact:

Rod Burke  
Syngenta Turf & Landscape  
Tel: 01223 883468  
Email: [rod.burke@syngenta.com](mailto:rod.burke@syngenta.com)

Simon Watson  
Syngenta Turf & Landscape  
Tel: 01223 883441  
Email: [simon.watson@syngenta.com](mailto:simon.watson@syngenta.com)

Caroline Scott  
Syngenta Turf & Landscape  
Tel: 01223 883466  
Email: [caroline.scott@syngenta.com](mailto:caroline.scott@syngenta.com)

Mark Sanderson  
TOP PR  
Tel: 01635 278236  
Email: [mark.s@toppr.co.uk](mailto:mark.s@toppr.co.uk)



## Notes to Editors

Syngenta is one of the world's leading companies with more than 26,000 employees in over 90 countries dedicated to our purpose: Bringing plant potential to life. Through world-class science, global reach and commitment to our customers we help to increase crop productivity, protect the environment and improve health and quality of life.

For turf specific agronomy and product information go to [www.greencast.co.uk](http://www.greencast.co.uk)



## Operation Pollinator Wildflower Seed Mixtures

Operation Pollinator Wildflower Seed Mixtures		
<p><b>% PARKLAND MIX 1</b></p> <p>20 Centaurea nigra (Common Knapweed)            10 Daucus carota (Wild Carrot)            15 Knautia arvensis (Field Scabious)            10 Lotus corniculatus (Birdsfoot Trefoil)            20 Prunella vulgaris (Selfheal)            10 Trifolium pratense (Wild Red Clover)            15 Galium verum (Lady's Bedstraw)</p> <p><b>100</b></p>	<p><b>% HEATHLAND MIX 2</b></p> <p>25 Centaurea nigra (Common Knapweed)            10 Daucus carota (Wild Carrot)            5 Succisa pratensis (Devil's-bit Scabious)            10 Lotus corniculatus (Birdsfoot Trefoil)            20 Prunella vulgaris (Selfheal)            10 Trifolium pratense (Wild Red Clover)            20 Galium verum (Lady's Bedstraw)</p> <p><b>100</b></p>	<p><b>% LINKS MIX 3</b></p> <p>5 Achillea millefolium (Yarrow)            5 Anthyllis vulneraria (Kidney Vetch)            20 Centaurea nigra (Common Knapweed)            10 Daucus carota (Wild Carrot)            10 Knautia arvensis (Field Scabious)            10 Lotus corniculatus (Birdsfoot Trefoil)            15 Prunella vulgaris (Selfheal)            10 Trifolium pratense (Wild Red Clover)            15 Galium verum (Lady's Bedstraw)</p> <p><b>100</b></p>
<p>* Operation pollinator mixes are designed to add visual interest and diversity to out of play areas on golf courses            * All operation pollinator mixes provide an excellent season long source of pollen and nectar.</p>		
Recommended sowing rate	Price	
<p><b>5kg per hectare = 0.5g/m<sup>2</sup></b></p> <p>100% British native wild origin seed</p>	<p><b>£345 per half hectare (2.5kg) pack</b></p> <p>£138 per kilo            prices include delivery</p>	<p><b>For more on sowing and aftercare:</b>            Syngenta Operation pollinator fact sheet  <a href="http://www.emorsgateseeds.com">www.emorsgateseeds.com</a></p>