



BIODIVERSITY AND ECOLOGY GROUP

Peebles Golf Club

First detailed project plan for hole 7

February 2021





Introduction

This is the first detailed project within the overall 20 year Biodiversity and Ecological plan for the Common good land that Peebles Golf Club leases. ([follow link for that plan](#))

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This document covers all aspects and details of this project, from design and plan, through to execution and onto ongoing maintenance, for further information on the longer terms plans, please refer to [follow link for that plan](#)

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It also covers in detail the required resourcing, costings and timings for the plan, the expected outcomes and goals, the funding approach, the planned involvement of organisations that can help, in either planning, design, execution, maintenance, funding or generally from within the community.

Aims and Goals:

To deliver an area of a grass/flower meadow of interest to local flora and fauna, to the left of the 7th fairway, as you look from the tee, amongst the current area of rough grass, saplings and shrubs.

This area will include introducing a mixture of grasses, wildflowers (annuals, biennials and perennials) in the meadow and fruit bearing trees to provide blossom, pollen, fruit and nuts for the local insects, birds and mammals.

The overall aim will be to attract and sustain insects, pollinators, birds and small mammals of ideally a native and local provenance to the Scottish Borders via a sustainable meadow area for local plant species to thrive, and within this area a small number of well-maintained trees for insects, pollinators, birds and small mammals.

A key goal is also to deliver back to the local community, the golf club and it's members, an area of interest and beauty viewed from the bridle path, from the 7th tee and fairway, from the 6th fairway, from the 12th, from the 2nd and 3rd fairways.

This area is also accessible from the public bridleway, thus enabling in a strictly controlled manner, involvement of other interested local groups in the building and maintenance of this area. Making the overall project very much about the overall common good for the wider community, people, plants and the wildlife.

A further aim is to get coverage in local and national newspapers, aim for awards for our long-term plans and work, and enhance our reputation within the local community, even more than during the pandemic.



BioDiversity and Ecological Group (Peebles Golf Club) (BEG)



Overall Approach:

The initial approach was to get approval from the committee to proceed with an high level plan and approach as sketched out below, from plan through to execution, this approval was given 26th January 2021, to proceed to the next level. Once this approval was given, we finalised the approach, costs and plans for final approvals, approvals from committee and



formal

committee-board app

board of PGC given 3rd February 2021.

We have met with PGC Head Green-keeper, as requested by the committee and board of PGC on 8th February, and the meeting was extremely positive. We will ensure that the PGC Head Green-keeper is engaged at all stages of this plan.

Once the plan and funding is secured, the execution will commence, as detailed below (see sections for [plan](#) and [funding](#)) and once the initial plan is complete/executed, we will them move on to the maintenance plan.



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Hole 7 – Colt's Choice

Opportunities for Biodiversity overview

There is a fantastic opportunity to produce 2,400 m² wild flower meadow area to the left of the 7th hole, (when viewed from the tee) where there is an existing area of intense rough and unkempt grass, and turn this into a wildflower meadow, including bee/bug hotels, small blossom/fruit/berry/nut bearing trees, with potential interconnectedness and corridors to the 8th fairway, 6th fairways and the 4th fairway.

There are opportunities to involve volunteers, and even extend this to local schools, albeit in a controlled manner and to local community groups of all ilk's and backgrounds, so diversity in action and relevant to all aspects for the common good of Peebles.

Precursor Project and Successor project

N/A – this is the first project, so no precursor project, and the successor project will be updated in the future, as the overall 20year plan is developed. ([follow link for that plan](#))

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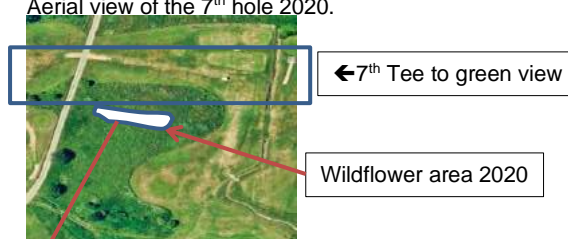
Pictures and Diagrams identifying opportunities

Existing Aspects of 7th hole, including Sponsor

Sponsor of this hole is Scotsdale Finance



Aerial view of the 7th hole 2020.



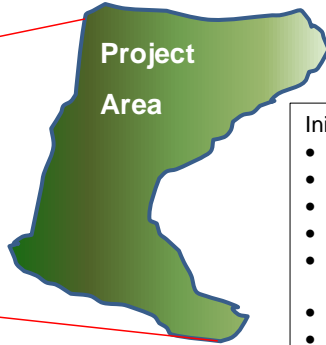
The photograph below is a small sample Wildflower area, next to 7th fairway that was planted in 2019 for a 2020 display with views back to Peebles Town Centre, just to demonstrate the dramatic effect wildflowers can have.





Highlighted project area(s)

Aerial view of the 7th hole, top right of the picture are the 7th tees the path across bridle path is top left, the green is not included

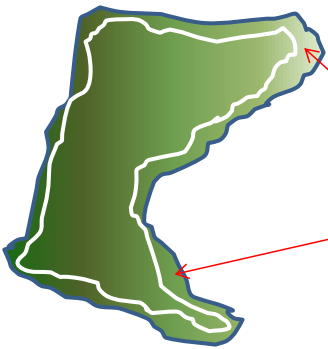


- Initial work
- Reduce grass/turf
 - Plough the land area
 - Apply weed-killer
 - Remove weeds and till
 - Till/rake remove new weeds
 - Plants trees
 - Sow seeds
 - Roll/tread seeds into soil
 - Build bug/bee houses
 - Install bug/bee houses

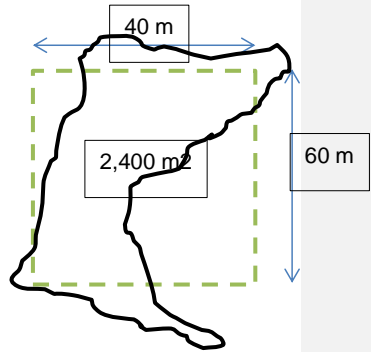
- Maintenance – Year 1
- Cut grass in autumn
 - Collect grass

- Maintenance – Year 2+
- Cut grass in Spring
 - Collect grass
 - Cut grass in autumn
 - Collect grass

Detailed proposed area design



Leave a 1 m border round the project area, on none playing sides and a 3 m border by side of 7th fairway to collect balls going into area. Need to consider GUR for internal work area



Please note, exact measurements will be finalised once approvals are given to move ahead on the project, and reported back to the committee/board. We have estimated for budget and approval perspectives, an area of approximately 2,400 m². The exact area is now known to be closer to 2,500 m², see sections in appendix for details of calculations.



Plan assumptions

This edge, we start half way to 7th green with margin, and gradually increase as we approach the bridge path, until near tree its 5 m margin, then straight to margin for bridge path

This edge, we keep a 1 m margin, all along the bridge path

This edge, no margin

This edge, 3 m margin all the way down to temporary green and behind and around

This edge, avoid trees on left corner, then swing across to 6th temporary green



Plan key steps

Aerial view of the 7th hole
With planned area for meadow

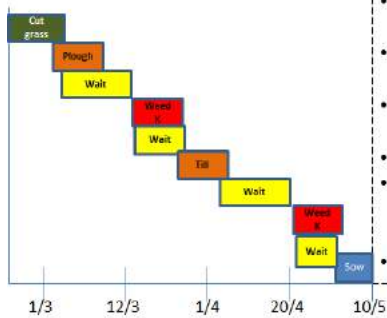
This edge, we start half way to 7th green with margin, and gradually increase as we approach the bridge path, until near tree its 5 m margin, then straight to margin for bridge path

This edge, we keep a 1 m margin, all along the bridge path

This edge, no margin

This edge, 3 m margin all the way down to temporary green and behind and around

This edge, avoid trees on left corner, then swing across to 6th temporary green



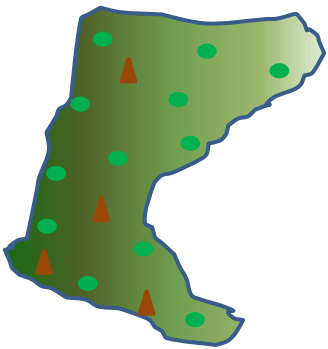
Key Steps:

- Cut grass ASAP. (Contractor)
- Remove grass ASAP (BEG Volunteers)
- Plough land (Contractor)
- Wait 2 weeks (for soil to dry and breakdown)
- Apply ONLY once weed-killer (BEG Volunteers)
- Wait 1 week
- Till land for sowing (Contractor) to enable seedlings to develop in top soil
- Wait 3 weeks
- Apply weed-killer (BEG Volunteers)
- Wait 1 week
- Sow and tread in seeds (BEG Volunteers)

First week March
2nd week March
Last week March
1st week April
Last week April
1st week May



Species and quantities used in the project



Item	Qty	% of whole if applicable	Notes
Grass	9.6 kg	80%	Total Grass mixture
Common Agrostis castellana		4.0	
Crested Dogstail		20.0	
Sheeps fescue		16.0	
Slender creeping red fescue		24.0	
Timothy, Small Leaved		9.6	
Smooth-stalked meadow grass		6.4	
Wildflowers*	2.4 kg	20%	Total flower mixture
Trees	5		1 of each: Mountain Ash/Rowan; Bird Cherry; Grey Willow; Common Dogwood, Goat Willow
	10		2 of each of: Hazel, Common Crab Apple; Blackthorn, Hawthorn, and Dog Rose
Tree protectors	15		
Bug/bee Hotels	4	2 of each	

The tree and shrub species selected for planting have all been chosen for their bird, bee and wildlife attracting capabilities. For example:

CRAB APPLE (MALUS SYLVESTRIS)	The blossoming flowers provide an excellent source of food and nectar for insects, particularly bees. Birds such as the song thrush, blackbirds and redwings love the fruit. But expect to have a few furry visitors such as mice, badgers and voles, who are also known to enjoy them.
BLACKTHORN (PRUNUS SPINOSA)	Because it flowers quite early it provides a priceless source of nectar and pollen for bees in the springtime. The foliage is an important part of the diet of many native moth caterpillar species, and the thorny foliage provides the ideal protection from predators for nesting birds.
HAWTHORN (CRATAEGUS MONOGYNA)	This species is wonderful for wildlife and has been found to support over 300 insect species. The flowers are loved by bees, bumble bees and butterflies and provide nectar and pollen for pollinating insects. The fruit is an important source of food for birds and wildlife.
ROWAN (SORBUS AUCUPARIA)	Moth caterpillars are often found feeding on the leaves. The flowers provide pollen and nectar for bees and other insects, while the berries are a valuable food source in the autumn for birds like blackbirds and thrushes.
COMMON ROCKROSE (Helianthemum nummularium)	Crucial for the rare Northern Brown Argus butterflies.



Costing and resource impacts

Item	£/REsource	Item costs	Notes
Cut grass	Res	£180	Get contractor in
Collect grass	Res	Volunteers	BEG Volunteers
Plough land	Res	£150	Get contractor in
Purchase weed-killer	£	£55	<i>Glyphosate free/Eco friendly</i>
Apply weed-killer	Res	Volunteers	BEG Volunteers
Remove weeds	Res	Volunteers	BEG Volunteers
Till soil	Res	£150	Get contractor in
Till/Rake	Res	Volunteers	BEG Volunteers
Purchase trees	£	£0	<i>Borders forest trust</i>
Plant trees	Res	Volunteers	BEG Volunteers
Purchase tree protectors, stakes, ties	£	£120	<i>Ashridge trees</i>
Install tree protectors	Res	Volunteers	<i>Local interested community groups</i>
Purchase seeds	£	£906	<i>groGreen seeds and Scotia Seeds</i>
Sow seeds	Res	Volunteers	
Roll seeds into soil	Res	Volunteers	
Build bug/bee hotels	Res/£	Volunteers £50 for materials	<i>School involvement?</i> https://www.wildlifetrusts.org/actions/how-make-bee-hotel <i>And Man shed Peebles</i>
Install hotels	Res	Volunteers	<i>School involvement? + BEG volunteers</i>
Buy 6 rakes to collect grass	£	140	Mytoolshed.co.uk
Total costs		£1,751	Rounded to nearest pound.
Contingency fund 12%		£210	
Cut grass Spring 2022/Sprig 2023	Res	£100	Get contractor in
Collect grass	Res	Volunteers	
Cut grass Autumn 2021/23/23	Res	£100	Get contractor in
Collect grass	Res	Volunteers	
Grand total costs		£2,161	

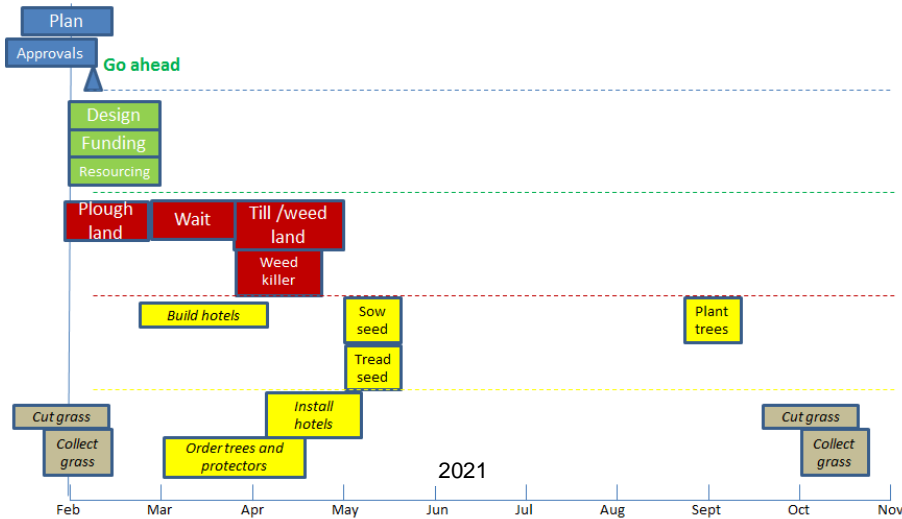
Costs for seeds as examples are:

groGreen seeds £67.50 per 1kg
 Scotia mix £91 per 1 kg
 Rigby Taylor £170 per 1 kg

Area approximately 2,495 m², and need approx. 5 g per m², thus need approx. 2,500 x 5 g = 1250 g = 12.5 kg, so costs are approximately £560 to £2,125, based on the costs above and needing 12.5 kg. After advice from head green-keeper, for budgeting purposes we have assumed 15 kg of groGreen 10kg of per-annual & 5kg of annual seed mix, and have a quote of £906.



Plan Timelines



Plan and approach for funding

Total funds needed £2,161 including maintenance

The funding for this project will be conducted in three ways:

1. Crowdfunding within Peebles the general community and PGC £661
2. Grants from Peebles Common Good Fund £1,500

The key aim in all projects is to include where possible fund raising locally within the Peebles community, alongside any funding from local and national Government and environmental bodies. Exact proportions will depend on each specific project and funding realized from other sources.

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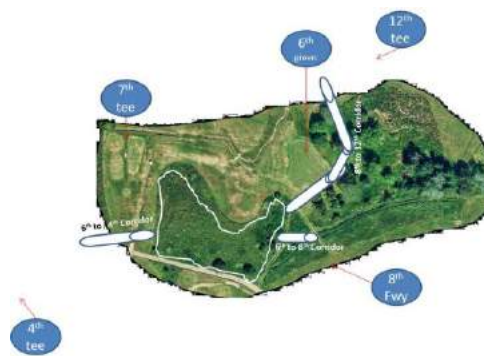
Expected Benefits to the Environment

- Wildflowers are rich in nectar and these will boost native pollinators such as butterflies, bees and moths all of which have seen a major and continuing decline that has been well documented both in the UK and globally.^{1,2,3}
- Provide food sources and nesting materials for a variety of birds.
- Wildflower areas provide cover for amphibians such as newts, frogs and toads to hide in as well as a damp environment for them to forage in.
- Small mammals such as long-tailed field mice (also known as wood mice), bank and field voles and shrews are common in meadows.
- Provide egg laying habitats for butterflies and moths producing caterpillars which in turn also provide another food source for birds.
- Help reduce the decline in the nationally significant Northern Brown Argus butterfly colonies whose UK stronghold is the Scottish Borders.⁴
- Contribute to the production of beneficial pest control species such as spiders, ladybirds and lacewings⁵.
- Create a changing palate of colour throughout the season for walkers and members with blossom in the spring, wild flowers throughout the summer and berries in the autumn.
- Foster involvement of local community groups and encourage future participation in biodiversity projects such as engagement with youths as part of their John Muir environmental award⁶.
- Offer opportunities for education through school interactions and local disadvantaged groups of all ages.

Interconnectedness and Corridors

The small wildlife rich areas we intend to develop will eventually provide larger interconnected wildlife corridors enabling migration routes for both flora and fauna, via direct travel or through dispersal via birds and wind.

Wildlife corridors are important as this enables defragmentation of previously lost habits through which plants as well as insects and mammals can colonize, migrate and interbreed successfully. These interconnected corridors can be delivered through careful future planning of additional wildlife rich areas as detailed within the 20year plan relating to the 4th fairway project, the 12th fairway project, a migratory path via the 6th and/or the 8th fairway projects.





Species Introduced and/or attracted

Proposed introduced plant species:

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Item	Qty	% of whole if applicable	Notes
https://wildflower.co.uk/spec-sheets/LWB_Butterfly_Bee.pdf			
Total quantity at 5g/ M²	12.0kg		Total Grass mixture 80%
Grass			
Common Agrostis castellana		4.0	
Crested Dogstail		20.0	
Sheeps fescue		16.0	
Slender creeping red fescue		24.0	
Timothy, Small Leaved		9.6	
Smooth-stalked meadow grass		6.4	
Wildflowers			Total flower mixture 20%
Agrimony		0.2	Perennial
Borage Borago officinalis		1.4	Annual
Clary, Wild Salvia verbenaca		0.8	Perennial
Clover, Red Trifolium pratense		0.6	Perennial
Clover, White Trifolium repens		0.2	Perennial
Corn cockle		4.05	Annual
Cornflower Centaurea cyanus		1.2	Annual
Daisy Ox eye		1.0	Perennial
Foxglove, Wild Digitalis purpurea		0.6	Biennial
Knapweed, Common		1.2	Perennial
Knapweed, Greater		1.0	Perennial
Loosestrife, Purple		0.2	Perennial
Marjoram, Wild Origanum vulgare		0.2	Perennial
Meadow Cranesbill		0.2	Perennial
Musk Mallow Malva moschata		1.0	Perennial
Poppy, Common Papaver rhoeas		1.0	Annual
Ragged Robin Lychnis flos-cuculi		0.4	Perennial
Sainfoin Onobrychis viciifolia		1.4	Perennial
Scabious, Field Knautia arvensis		1.4	Perennial
Scabious, Small Scabiosa		0.6	Perennial
Teasel Dipsacus fullonum		0.2	Biennial
Trefoil, Bird's-foot		0.4	Perennial
Vetch, Kidney Anthyllis vulneraria		0.4	Perennial
Viper's Bugloss Echium vulgare		0.4	Biennial
Yarrow Achillea millefolium		1.0	Perennial
Yellow Rattle Rhinanthus minor		1.4	Annual
Trees		Shrubs	
Bird Cherry		Blackthorn	
Crab Apple		Dogwood	
Hazel		Dog Rose	
Rowan		Hawthorn	
Silver Birch (host over 300 insect species and best for moth larvae)			



BioDiversity and Ecological Group (Peebles Golf Club) (BEG)



Expected Wildlife species attracted
Seed eating birds such as Goldfinch, Bullfinch, Greenfinch, Blue tits Great tits, Dunnock and Sparrows.
Many moth varieties including the Six spot Burnet, Antler and Burnished brass moths
Common and soprano pipistrelle; brown long-eared; Daubenton's and Natterer's bats and hopefully rarer species such as noctule;
Butterflies including Common blue, Dark Green Fritillary and hopefully Northern Brown Argus
Ladybirds and lacewings
A wide variety of bees such as the solitary Miner, the Mason, Yellow faced, Bumble and Honey.
Long tailed mice shrews and voles

Partnerships in delivery

Organisation	Contact Information
Peebles and District Men's Shed	https://peeblesmensshed.co.uk
Scottish Borders Ecology Officer	https://www.scotborders.gov.uk
The Conservation Volunteers (I Dig Trees)	https://www.tcv.org.uk/contact
Bat Conservation Trust UK	https://www.bats.org.uk
RSPB	https://www.rspb.org.uk
groGreen seeds	https://grogreen.co.uk/
Scotia Seeds	https://www.scotiaseeds.co.uk
Richard Mullen, Banchory Golf Club	http://www.banchorygolfclub.co.uk
Peebles Bridge Community Trust	https://www.peeblescommunity.org
Greenkeepers	
Volunteers	
Crowdfunding in the community	
Tweed Ecology (Rueben Singleton)	https://www.tweedecology.co.uk/
Pollinators along the Tweed Project	
Scottish Landfill Community Fund	https://fundingscotland.com
Scottish Borders Council Community Fund	https://www.scotborders.gov.uk



References

1. Gary D. Powney, Claire Carvell, Mike Edwards, Roger K. A. Morris, Helen E. Roy, Ben A. Woodcock & Nick J. B. Isaac Naturecommunications volume 10, article number: 1018 (2019)
2. Christopher J Rhodes, Science Progress (2018), 101(2), 121–160
3. Nilsson, S.G., Franzén, M. & Jönsson, E. (2008) Long-term land-use changes and extinction of specialised butterflies. *Insect Conservation and Diversity*, **1**, 197–207.
4. <https://butterfly-conservation.org/news-and-blog/volunteers-strive-to-save-rare-butterfly-in-the-scottish-borders>
5. Pfiffner, L. & Wyss, E. (2004) Use of sown wildflower strips to enhance natural enemies of agricultural pests. *Ecological Engineering for Pest Management: Advances in Habitat Manipulation for Arthropods* (ed. by G.M. Gurr, S.D. Wratten and M.A. Altieri), pp. 165–186. CSIRO Publishing, Collingwood, Victoria, Australia.

General links

Scottish Landfill Community Fund

https://fundingscotland.com/fund/a0Rb000000Dy9z4EAB/bccf-environmental-scottish-landfill-communities-fund?activities=environment&geographical_areas_funded=scottish-borders&type_of_cost=capital

Scottish Borders Council Community Fund Guidance notes 20-21

https://www.scotborders.gov.uk/downloads/file/7523/community_fund_guidance_notes

Scottish Borders Council Community Fund Application Form

https://www.scotborders.gov.uk/downloads/file/7674/community_fund_application_form

Scotia seeds Sowing and Managing Guidance notes

<http://www.scotiaseeds.co.uk/wp-content/uploads/2016/05/Sowing-managing-your-meadow.pdf>

John Muir Trust

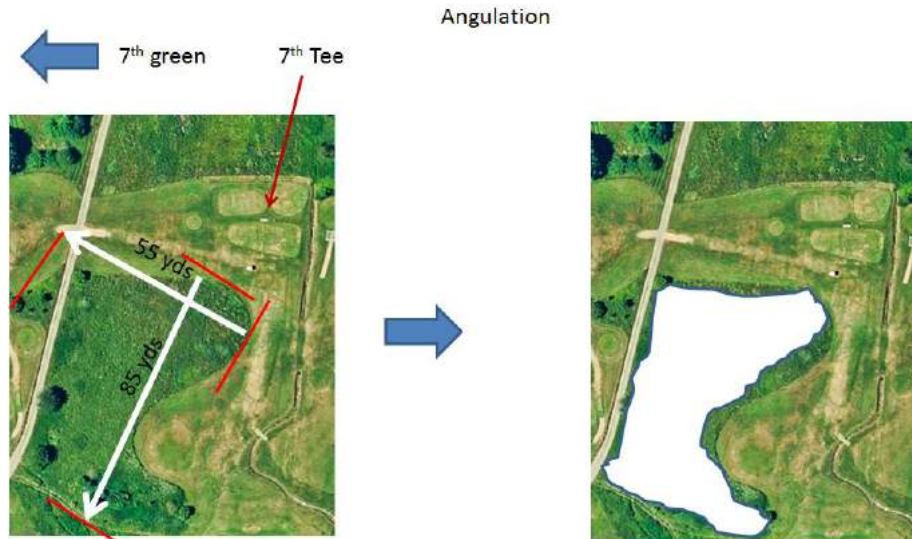
<https://www.johnmuirtrust.org/latest/news/1667-audit-highlights-young-peoples-environmental-work>

<https://www.treesdirect.co.uk/the-vine/9-must-have-british-trees-for-attracting-wildlife/>

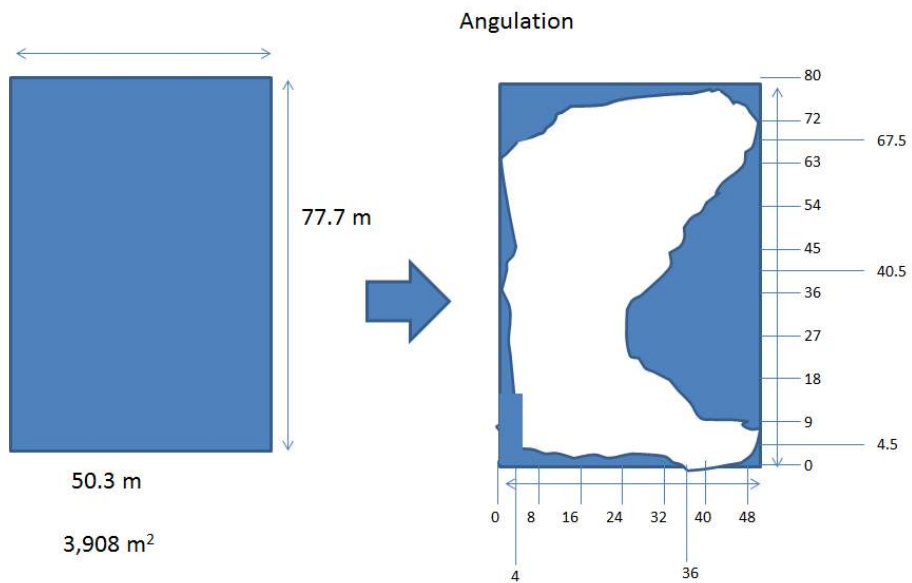


Area Calculations

Stage1

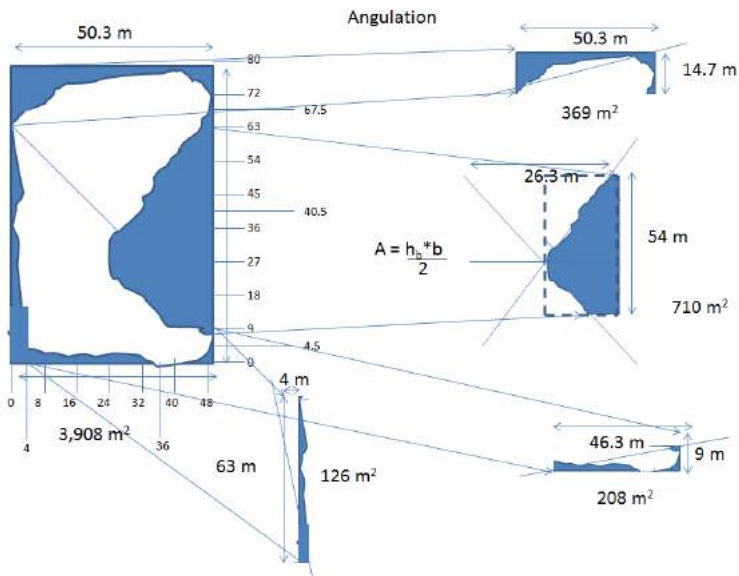


Stage2



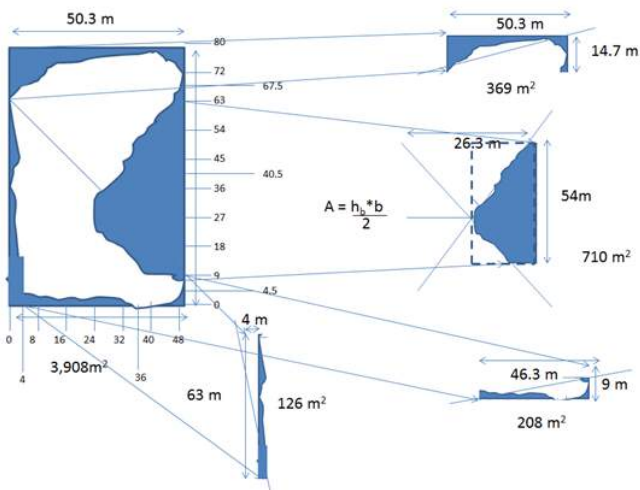


Stage3



Stage4

Angulation



$$\text{Actual Area} = 3,908 \text{ m}^2 - 126 \text{ m}^2 - 208 \text{ m}^2 - 710 \text{ m}^2 - 369 \text{ m}^2$$

$$\text{Actual Area} = 2,495 \text{ m}^2$$