



Funded by the DEFRA group through an agreement between Natural England and Groundwork NE & Cumbria. Partners include The National Trust, Little Harle Partnership, Middleton North Estate. This booklet is funded in part thanks to Shears Foundation and Barrett Homes.

With support from HM Government and The Ray Wind Fund.

Unless otherwise stated photographs are by Christine Woodcock of White Oak Photography.

The Last Laugh

The self-satisfied chuckle of the fast flowing river: A drain for scrapes, Exhaustion for peat, Anathema for beavers, Catastrophe for communities.

The fast flowing river is no laughing matter: It's time for us to Plug, block, dam, stop. Slow the flow and see Still waters run deep.

Jo Scott

joscottwrites.uk



The Wansbeck Restoration for Climate Change project began in 2023 on land that forms the upper catchment of the River Wansbeck.

The project intends to explore and measure scientifically a variety of interventions which help store carbon and increase biodiversity all within a farming and forestry landscape.

This is one of six similar experiments across the country. The results of this ten year study will be used to form national government policy and advice on combating manmade climate change and species extinction.

Left: Joseph Anderson, who farms at Fairnley, took part in the Wansbeck project by improving hedgerows and water quality as well as hosting school and university groups.



Lesley Silvera (Groundwork NE) explains a landscape feature to a group of guests.

"I was delighted to be invited to take photographs of this project happening on my doorstep. As I took photos of stakeholder meetings, and documented the activity of Groundwork and their partners, we talked about ways to make this process more publicly accessible.

We began to offer guided walks through the Upper Wansbeck catchment. During these we encouraged guests to take photos of what they saw, and share the images with us. On one occasion we were accompanied by Elsdon Writers Group. Several members have contributed wonderfully expressive responses to this landscape and the themes of this project. Their words make evident what we always felt – that this work is hugely important to people. Cultivating a rich landscape, abundant with life, is a cause close to the hearts of many.

This booklet combines these creative outcomes alongside an explanation of the practical aspects of this project. We hope to give an insight into the beauty and diversity of this area. We will shed light on the the rangers, scientists and farmers involved. Together they are striving to help others make informed and responsible choices about landscape management for the future."



Rosebay Willowherb, double exposure image using cyanotype.

THE FARMER

Dad cut these ditches

Drain the land they said

Dad's sweat is in these ditches

Drain the land they said

Now fill them in they say

My sweat is in this peat bog

I fill these ditches

Flood the land they say

My sweat is in these peat bogs

Flood the land they say

The ground sighs

"At last!!"

The plants set out new roots

The cranberries blossom

The birds sing

The flowers bloom

The bog begins its repair

I plant new hedges

I wiggle the stream

My land must pay its way

I smile "what do you think Dad?"

I hear him say in his broad Northumbrian drawl

"Well, I always said the bog was best left alone."

Before they told us to drain it

Older ways are usually best

I felt his warm smile and hand on my shoulder

"Well done lad the land will thank you"

Margaret Isobel Beech



The Science





At the start of this project a combination of scientific methods was used to take a baseline measurement at each of the pilot sites.

The carbon stock and biodiversity of each habitat will continue to be measured by soil coring, vegetation assessments, gas flux measurements, 3D scanning of scrub and hedgerow, and woodland surveys. Other monitoring efforts combined with all this data will enable us to build a detailed individual understanding of each site.

As these pilot sites undergo land-use change and habitat creation, repeated measurements and surveys will allow us to assess the net carbon losses or gains as well as differences in biodiversity over time. These methods are also being used in existing habitats of different ages, on pilot sites and elsewhere, to assess the build-up of carbon and changing gas fluxes over time.

Gas flux monitoring across different types of habitats such as peatland, woodland and grassland will show which of these are able to store the most amount of carbon.

Fixed point photography, where images are repeatedly taken from the same spot, can be used by scientists to measure and demonstrate changes. We have performed fixed point work in the Upper Wansbeck catchment. The location of the first photos is carefully noted so accurate comparison images can be taken later.







A series of 2 metre and 10 metre quadrats is set up at each monitoring point (above). The square patch of ground is carefully checked and a record made of every type of plant present, including what percentage of the area each takes up. This helps measure species richness and diversity.

The success of the project is dependent on high quality data collection. This will give a high level of confidence in the evidence base that we are building. This will prove which habitats store the most carbon and yield good biodiversity and which interventions are most cost effective and useful for the farmer involved.

Lesley Silvera, Groundwork NE

Many fields in the upper Wansbeck catchment (left) have had deep drains cut through them since the 1800s to try to dry the land for increased agricultural production. This leads to rapid run-off in heavy rainfall and can cause flooding downstream. Using small dams or moving the earth to infill the "grips" can hold back water flows for a few hours and take peak flows off the main river.



"Many people think of biodiversity as a luxury – as nice-to-have, charismatic, beautiful species. They are good for the soul but no more than that, these people argue,...but biodiversity is so much more than that. It is the engine that produces everything that we consume. You can think of it like a wild supermarket that provides us with food and other gifts without us doing anything. The fact that we have several different varieties of apples, tomatoes and other foods is down to biodiversity – and when it is diminished we lose out."

Professor Andy Purvis of the Natural History Museum, London

Macro Photography (right) is a wonderful tool to focus your attention on very particular subjects. It is often not until we get a clear image of an insect or flower that we have the chance to appreciate the finer details. We observe how it differs from similar organisms; we begin to notice the variety all around us – the biodiversity.

Recent studies show the UK has lost half of its species already, sadly we have one of the worst records across the globe, sitting in the lowest 10% we score below much of western Europe and even industrial giants like China. Beautiful photographs can help to inform and inspire us to become invested in the many wonderful creatures we share the world with. Without knowing about the vivid lives of the many species on our doorstep it can be hard to engage with the fight to conserve them.

Areas of Middleton North will be returned to a form of Woodland Pasture (right) where small fenced areas protect copses of trees. As well as providing wildlife havens these benefit the livestock by offering shelter from any extremes of hot and cold weather.





To Be Soaked Again

To be soaked again, to swell, to feel moisture within and all over, to enjoy that almost forgotten weight, of comfortable pressure from every direction.

To be a bog again. To slip and slide, to suck and bubble, pooling now and then.

To be a harbour for sphagnum mosses, their blankets to build.

To hear the curlew calling, the lapwing and the golden plover to return. Tussocks of cotton grass bob and sway. Nest building vegetation aplenty. The heather, crossleaved heath and crowberry gather. Cloud berry and dwarf cornel too. Heath butterflies and insects galore. Sundew and other hungry plants thrive. Lichens and mushrooms too.

To cradle time in the peaty waste. To hold the past for later reading with long lost bodies of mystery and speculation. Indiscriminate, accidental or with purpose stashed. Treasures to be discovered. Fresh, earthy, dark, resinous treasures hidden below.

To capture the carbon of messy lives.

To hold back the flow, the rise of damage and destruction. Restore balance, re-build habitat and diversity of life. Nurture and protect. Glory in the surface of luminous greens, the yellows and darker tones, the unexpected splash of colours. The peaty odour carried in the open air.

The cry: Help! Restore natures balance.



The Past

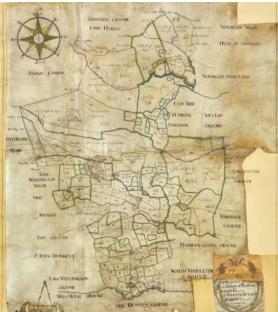
For a long time Government incentives rewarded farms for increasing food production above all else. We have since come to realise the downsides e.g. loss of species, increased flooding, soil erosion. Also, we now know that intensively produced food often lacks the minerals important for good health. One reason this project is so important is that future decisions can be led by the hard data collected during these trials. This avoids asking farmers to make unnecessary changes.

Joseph Anderson farms in the Upper Wansbeck Catchment with his father George, and has made many changes to the farm since 2000. These include hedgerow planting, adjusting stocking levels and introducing hardy native breeds. Joseph said he is 'keen to structure the farm to have space for nature and the rest for livestock.' Their small herd of 20 Belted Galloway cattle graze outdoors all year round up to the moorland edge eating the various herbs and grasses. The sheep are gathered and moved frequently around the field system to graze as a 'mob' which gives other fields a 'rest'. The deep Fairnley Burn has recently been fenced from the livestock allowing trees and streamside plants to flourish which benefits the native white clawed crayfish.

Left: 'Belty Coos' beside the Fairnley Burn (foreground).



Old maps (right) show that fields were a lot smaller than today. The long grasses, bushes & trees (or dry stone walls) which formed the boundaries were mini havens for wildlife and provided safe routes for animals to travel unseen. The WRCC project will restore many of these low maintenance passageways, giving a bit more of the land back to nature while allowing farming to continue alongside.

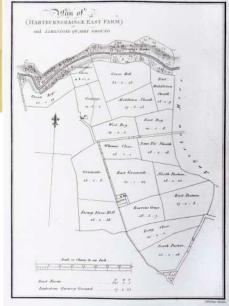


wonderful pig but in old English a 'Grave', was a grove or wood. This might be a good place to plant new trees as the Mycorrhizal fungi could still be there. Oh and the Strawberry field, a more modern name from the time of the railway. The train would be stopped to allow passengers to pick strawberries in mid summer and blackberries later on!"

Learn more about Charlie's discoveries at charliebennettauthor.co.uk

Many very old maps show the names of the fields and from this you may get a sense of the variety of habitats there was.

Charlie Bennet explains how finding old maps of Middleton North gave a real insight into the past which could be useful in future "My favourite field is Bowron's Grave, not the resting place of a











Top: family photos show Eddie Thompson farming during all weathers at Gallows Hill in the 1960s. Below: looking North near Gallows Hill, 2024.

"We moved into Gallowshill when I was seven and to be honest, and rather embarrassed about it, I can remember little about the wildlife from those times — somehow environmental issues just weren't a thing. Foxes seemed more common (despite hunting) as well as more hedgehogs and rabbits. Lapwing and curlew were present on the large 'Fell' field which was left fairly untouched with a very low stocking density. However, there were fewer badgers about and I only remember seeing my first Buzzard about 20 years ago.

Father kept about 365 sheep (one for every day of the year) as well as 52 cows and a bull (aka a pack of cards) Lambing started on the 12th of April with half the suckler herd calving in autumn and the rest in spring – all aimed at making things as simple as possible and making the best use of available grass. Hay was made when the weather allowed (anywhere between July and September – so any 'holidays' were a 'spur of the moment' 2 days in Scotland at best) but this did allow more time for ground nesting birds to rear chicks and meadow flowers which were much more common. Initially cattle overwintered outside and needed daily feeding whatever the weather

- and it definitely used to snow more often!

We certainly didn't rip any hedges out – but then again we didn't plant any either. Times change and it is certainly a great thing that more attention is given to improving the long term prospects of the environment in general and restoring the balance between farming productivity and nature's needs.

People ask what my father (pictured) would have made of having fields fenced off for beavers – well he was an 'environmentalist' at heart even though he may never have heard the word, with a great sense of humour and I'm sure he would have welcomed them with open arms!"

Richard Thompson

whose family farmed at Gallows Hill for 30 years until 1991



Paleochannels can be identified most easily using images from a drone. Here, the former pathway has been underlined to make it easier to see.



A paleochannel is an old, inactive channel showing us where the stream once flowed. As part of this project areas of the Wansbeck, have been restored to their former winding paths, this helps slow the water in times of flood and creates a larger variety of habitat thus supporting a more diverse range of species.

In some places such as Middleton North (bottom left) fences have been added to stop farm animals trampling the riverbanks. This will reduce soil erosion and allowing wildflowers to recover.

Walking through the area it's sometimes easy to miss points of interest. A kest (top right), also known as a cast or an upcast, is a stone-lined bank which acts as a field boundary. Some of these in the Upper Wansbeck date back to the 1500s.

Rigg and furrow lines (right), easily seen across the Upper Wansbeck catchment, are left over from farming practices in the Middle Ages (although some are even earlier).

The story overleaf has been created by Theo Nickols. Born in Northumberland and now working in Devon, Theo visited Harwood Forest in 2024 as part of the Nature Returns project. His horror story was created from the information in a scientific study.





The Tale of Two Contractors

"Don't be looking in the pool too closely lad."

Isaac glanced up at Gary from the brown water.

"Why's that boss?" asked Isaac as he stood up from the edge of one of the many newly created pools.

"Come on. The sun's setting and we best be getting back." grumbled Gary.

Isaac half-stumbled as he caught up to Gary. He rightened his hard-hat.

"Have you ever had to use this?" queried Isaac as he tapped the torch built into his hard-hat. Isaac saw Gary's broad shoulders slump slightly under his fluorescent vest.

"No. No I've never had to use the torch lad." sighed Gary.

"How's that then? They tell us you're out here all hours of the night fillin' the drains and packin' with soil or whatever."

Gary stopped abruptly.

Isaac narrowly avoided bumping into the burly man.

"You haven't the faintest idea do you lad? Why do they keep sending me the likes of you." growled Gary as he rounded on Isaac.

Isaac thought his heart stopped momentarily.

"We're not packing the ground or 'whatever'," snarled Gary, towering over Isaac, "we're ground smoothing, where we carefully repack saturated peat into old trenches, block flow paths, create gentle pools, doing everything we can to keep the water on this once beautiful peat bog."

"S-sorry, Gary." stuttered Isaac in a whisper.

Isaac felt a hand on his shoulder.

He raised his head and saw Gary's lined features had softened, his grey-blue eyes looked sad. "It's not your fault lad. We did this to ourselves many years ago after the War. Timber, agriculture, it was a time of need. But places like this, like Harwood Forest is how we can make good. We can rewet the dried-out peat, better lock-in carbon, keep the Sphagnum mosses going, restore the lost plant life and wildlife. It's specialist contractors like you and me

A prolonged, strangled screech rang out across the blanket bog.

"What was that? Gary?"

Isaac followed Gary's gaze tracking across the vast Northumberland landscape.

Gary whipped his head to the west.

"It's too early." mumbled Gary.

"Too early? What's too early?"

Isaac could hear his blood pumping in his ears. An uneasy knot of fear began to form in his qut.

Gary checked his Casio.

"Get moving. Now." barked Gary.

Isaac squelched in the peat trying to keep pace with Gary.

"What was that noise?" panted Isaac.

"She's not happy."

"She? Who's she?"

"Keep. Moving." ordered Gary.

"No! Not until you tell me what's going on!" yelled Isaac.

Isaac grabbed Gary's thick coat sleeve and yanked it backwards.

Cold water started pooling in Isaac's right wellington boot.

"The Lady of the Bog is not happy. She hasn't been for a long time now." whispered Gary leaning in close.

High pitched laughter rang out across the bog.

Isaac wiped a tear from his eye.

"A man like you, as big as a bear" chuckled Isaac, "and you're scared of a kid's story. You almost had me there."

Silence hung in the air.

Gary gave Isaac a sad smile.

"Don't go too close to the pools." said Gary quietly.

He turned and walked away.

"Gary?" a note of alarm crept into Isaac's voice.

Isaac went to follow him, but his right leg wouldn't move.

He tried pulling it out of the bog.

It didn't move an inch.

Theo Nickols







Oral Histories: Edith Marshall

"I was nearly six when we moved to Cambo in 1943. My father got a job as the blacksmith to Sir Charles Trevelyan. He used to shoe the big horses, the beautiful big horses the Forestry Commission had.

Before that, we'd lived in Wallsend between the railway and the shipyards, most nights was spent in the air raid shelters and you went to school with your gas mask. First thing I asked when we arrived with the removal van was "Where's the air raid shelter?" I couldn't believe there wasn't an air raid shelter in Cambo.

You had outside toilets when we first came to Cambo. In fact right up to the time I got married we still had an outdoor toilet across the yard, a double seater! Charles Trevelyan employed a man and he went round with a horse and cart to empty all them outside toilets. It was emptied into the wood behind the school. It was always called "stinky". I think there'd been a small quarry where they got the stone to build Cambo with, and he emptied it into that.

I worked at Scots Gap station in the 1950s and 60s until it closed in 1966. I could contact any station on the line using a morse code system - Meldon, Angerton, Middleton, Knowsgate, Woodburn and Bellingham to keep track of the rolling stock.



There was a sawmill at Scots Gap, run by Pyman and Bell so quite a bit of timber and a Lime works at Longwitton run by Bathgates and they both put consignments on the goods trains.

Local farmers could hire great big sacks to put the wool in when they clipped the sheep. It used to go to McTaggarts of Hawick.

Then we used to have the Irish cattle at the annual sale at the auction mart next to the station. The Irishmen came over and stayed at the temperance hotel at Scots Gap. That was the one time I got some overtime because the sale used to go on way after working hours.

Left top: Cambo village, Image of Edith by H. Henderson, Harwood Forest. Above: Scots Gap auction mart.

Oral Histories: Joseph Anderson

My great uncle was a tenant of the Trevelyan family. I'm fourth generation farming here. The farm was gifted to the National Trust in 1942.

After the second world war it was just produce food under any circumstance; you know, throw fertiliser at it and compound hard feeds to produce better livestock quicker. Then BSE (Bovine Spongiform Encephalopathy) ravaged the beef industry in 1998.

To be honest, I think that BSE was probably a catalyst to a lot of the modern day stewardship schemes we see now.

We really took advantage of those and now have 12km of hedging on the farm. The first ones we planted in 2000 are absolutely wonderful. The biodiversity of a hedge in the first place is fantastic. But they have added merit in being good shelter for the livestock and also shade from the sun in the summer months.

I think the on-farm philosophy at the moment would be that the inconvenient areas of the farm should be made into woodland and conservation areas. And we will farm the nice, green, square areas, and continue the food production on them.

If you're being detrimental to the environment, then that's not good for you. We're quite keen on the environmental schemes, but we need to produce food as well.

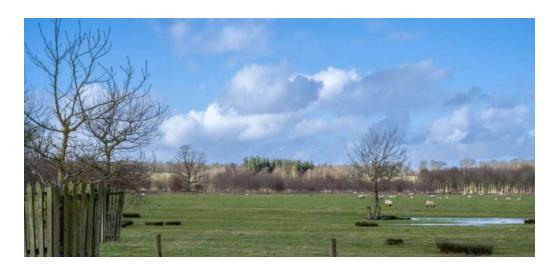
Clockwise from top left: Joseph's father George leads the conversation at a meeting of WRCC project stakeholders; new fencing is installed to widen field margins; Joseph working alongside his son; the family have reduced sheep numbers to promote nature recovery.











Oral Histories: John Anderson

There was government pressure put on all farmers after the war (WWII), to produce food at a cheap price. And the government has never changed that policy and the resulting industrial farming operations and use of sprays, chemicals and really heavy machinery, these have all had consequences.

We know a lot of people want rewilding but I think most people like to see a well-kept countryside with trees, woods, hedges and lots of grass. They want it to be visually attractive. Rewilding is not always that visually attractive.

We farm with a view to encompassing a lot of different aspects, which are of value to people and the country. We run a big sheep flock of about 1800 ewes, 150 cattle, and we have about 300 acres of arable. On the woodland side, we've doubled the woodland acreage up to 200 acres. My grandfather never cut a tree







Kirkhale Courtyard sits at the heart of the Estate.

down, but equally, he never planted one. And trees are like everything else in life, they have a lifespan.

Now we have woodland that is of benefit to wildlife, for shelter for stock and for amenity value. We have been doing things along the Wansbeck to try and improve the habitats for wading birds and the vegetation. We've still got work to do on that; it's an area where nature reigns supreme, really.

We have also diversified and now have a series of workshops and units, where we have people who are utilising the old traditional farm buildings. We also have a coffee shop and that's employing about a dozen people both full and part time, which is great.

I think lots of farmers are trying to do their bit for nature. But at the end of the day, they need to produce food because that's what gives them a living. It's much better to have nature embedded into the farming rotation.



Nestled in Scots Gap, beside the auction mart and old railway line sits Robson & Cowan Country Store.





Oral Histories: Andy Cowan

My grandfather Cowan had a reputation of being an honest, very good farmer. So he was given the tenancy of Horncastle Farm by the Andersons of Little Harle Tower.

He went off to the First World War, came back injured with quite a bit shrapnel damage to his hands; that meant he was never going to be any good at farming. So, with Joseph Robson, who had come back from the war as well, they took over a business from a company called Joseph Lamb and Son, and this was in 1922. So that was the start of the Robson and Cowan business.

Of course, over the years it's expanded a lot. I was one of six boys and all six of us ended up working for Robson and Cowan. So it was a true family business, you know. When I started in the 1950s it was nearly all animal feed and household goods, ironmongery and hardware. Then the business developed into electric goods and into horticultural machinery.

It's changed a lot. I would think now we are dealing with probably about 60% of the farms we were 40 years ago, maybes even less than that. A lot of the smaller farms couldn't make a living, because, you know, there wasn't enough money in farming.



Image by H. Henderson

We are very grateful for the work gathering and collating these interviews and the accompanying audio recordings. Our thanks go to: Harry Henderson Oral Historian, Trainer & Advisor

07812 597151 harry,henderso@zen.co.uk harry,henderson@bailiffgatemuseum.co.uk www.bailiffgatemuseum.co.uk 01665 60584

Steng Moss Bog

The blackness surrounds me, yet I am comfortable, thousands of years have made me this way. I may seem uninteresting to those who pass me by day and night, but I am alive, I am industrious, I breath in the carbon from your world, digest it and make it mine. My many plants sustain me and lay down the dark peat that is my soul. Insects I welcome and they find safety in my depths, birds circle over me in the sky above, hunt, raise their chicks and feed from my bounty. My miniature worlds, attract them all, green and red sphagnums, my fruits of cloud berry and cranberry, my wispy cotton grass, my bog rosemary and my bog asphodel, all play their part in creating my tapestry of colour, my mat of softness which has its own breath and being. You have tried to destroy me over the years with your spades, your intrusion, but I have survived and will, if left, help you in ways you can never imagine. I will hold your impure air and relish in it, I will hold your secrets and your beings, preserving them for others at some time to find and wonder at. So keep me safe if you can, come and wander my tussocks and depth but please value me I can be your life healing blood moss.

Margaret Isobel Beech









Taken near Steng Moss Bog looking South East over the Upper Wansbeck Catchment area.

Author's note: This piece was inspired by a day with the National Park learning about the blanket bogs of Northumberland and the flora and fauna they support. We got to explore Steng moss bog itself (near the Gibbet on Gibbet road from Elsdon to Morpeth) and insert poles into the bog to assess the depth. Each metre pole represented 1000 years and we used 6 poles near the centre of the bog so 6000 years old.



The View

Artists have seen the natural world as a primary subject since the 16th Century. Their beautiful portrayals of the landscape influenced the way landowners kept their estates. After travel writer Rev. William Gilpin popularised the term 'picturesque' in the late 1700s how things looked became really important. Landscape architects such as Lancelot 'Capability' Brown (born, of course, in the Upper Wansbeck at Kirkharle) changed the lie of the land and the course of rivers to be more like those seen in romantic landscape paintings. We have since learnt how these changes (and latter ones to make the land drier and more productive) have been harmful to native animals and made issues like flooding much worse

This project includes around £100,000 being spent on fencing. In only a few years the hedgerow species that have been planted inside these fences should flourish into huge 10m wide wildlife corridors.

It is expected that, in time, species from elsewhere in Northumberland, perhaps red squirrel and pine marten, will move into this wildlife friendly area.







Being able to relocate is going to be extremely important for the resilience of our native species in the face of a changing climate.

One threat to planting new hedgerows is public perception. People tend to favour an unobstructed view and a tidy appearance.

When we worry too much about appearance we get into the habit of tidying nature up. This often includes regular pruning or early flailing of hedgerows. Unfortunately this prevents many bushes and trees from producing blossom and berries meaning insects, birds and mammals miss out on this vital food source and rich habitat.

Top left: a traditional scene of Kirkharle's landscaped grounds. Right: fencing is added to create wildlife corridors. Various: unkempt hedges and wildflowers make rich photo subjects









Above: When Middleton North began to allow their hedges to flourish, Yellowhammers (a species of great concern on the red list) returned in droves, with one ornithologist counting 300 in one day.



Photographers and artists continue to play a role in shaping what is judged as beautiful. With creativity we can celebrate messy, wild, diverse and abundant natural landscapes.

Some photographs, known as contact prints, can be made by touching the subject to a piece of light sensitive paper. Using this method to create work in the natural world can capture the feel and shape of the plants in a way that's not always obvious in normal 'lens based' images taken with a camera. Above is a digitally produced double exposure, combining a photo of the subject with a cyanotype of the made with the same plant in the hopes of creating a more tactile but still recognisable shot.

Learn more about traditional photography with Chris www.whiteoakstudios.org.

Too lips off typos teers Two lists of types of trees

Sick amour	Popular	Sycamore	Poplar
OK	Horses cheese nut	Oak	Horse Chestnut
Lie me	Crap babble	Lime	Crab Apple
Conquer	Maypole	Conker	Maple
Cyprus	Beach	Cypress	Beech
Large	Feal, tell'm	Larch	Field Elm
Plump treat	Come on bitch	Plum tree	Common Birch
Will oh!	Wes turned 'em locks	Willow	Western Hemlock
Alter	Whore thong	Alder	Hawthorn
Older	Crack widow	Elder	Crack Willow
Holy	Scotch pie	Holly	Scots Pine
See'd her	Hazey	Cedar	Hazel
Spinned all	Conie fur	Spindle	Conifer
Rowing	No ways, Bruce	Rowan	Norway Spruce
Seat-cars Bruce	Warm but	Sitka Spruce	Walnut
Land on plain	You	London Plane	Yew

Anita Holbrow thedarkskygallery_uk @yahoo.com



