

MOUSE WALK

REPORT FOR GUIDED WALK SATURDAY 7TH MARCH 2015

ATTENDEES: Anna Thorne, Richard Thorne, William Thorne, Isobel Crozier, Elliot Crozier, Carmel Kilcline, Richard Rickwood, Kieran Rickwood, Anna Rickwood, David Winton, Amanda Wrockley, Geoff Saunders, Aline Bowers, Simon Braidman and Emmanuelle Braidman

Weather sunny mild 16 degrees centigrade.

It was a lovely day and it was really exciting as had the traps worked. The traps had been laid on Wednesday and Thursday. The traps were checked on Thursday and Friday night and the safety catches were taken off Friday night. This was because I was working that Friday. Usually the traps are set during the day. Going around the Common at night was interesting. I tripped up once over a log.

The map below shows the nature reserve and the yellow stars mark the location of where the traps were set.

There were 3 types of trap used.



Longworth trap



Sherman trap

The third type of trap was a footprint trap. This was made from cardboard boxes to make a triangular frame structure. Inside was placed an ink pad baited with sunflower seed. Then a piece of card was taped inside the frame.



Footprint trap.

At each location traps were placed to a maximum of 2 mammal traps and 1 footprint trap. The mammal traps were baited with a mixture of peanut butter, honey, sunflower seed and hedgehog pellets.

All the traps were placed in areas of likely use by small mammals, especially areas with good ground cover such as grassy or bramble overhangs and alongside dead timber.

We started off looking at the new growth of Aspen trees along Witling Ride. The winter twigs are distinctive with warm brown sharp buds held close to the stem. The stem being slightly hairy.

We also looked at Sycamore with its bright green paired buds.

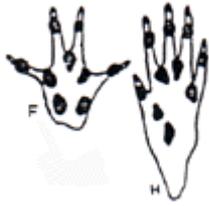


The first stop was interesting. The location was close to the car park in Holly Wood. We caught no mice and the Sherman traps here were damaged. One very badly damaged. This was probably foxes.

We did get footprints below is a footprint trap in position situated under a sheltered overhang. In this case a tree root plate.



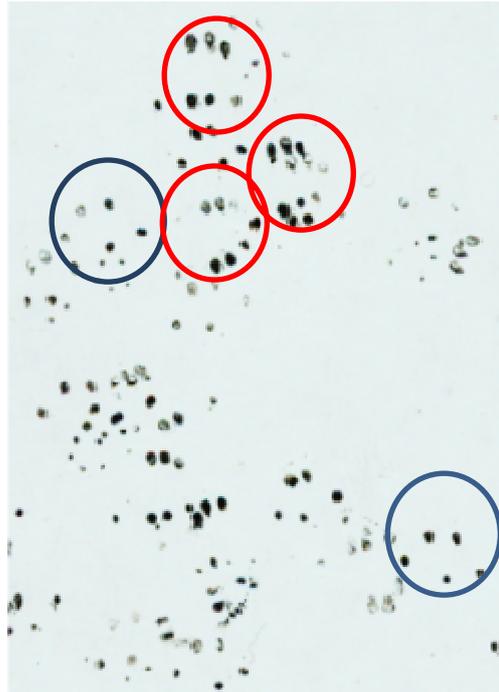
Opening out the footprint trap



F= fore foot

H= hind foot

Note 4 fore
foot toes and
5 hind foot



RESULTS FROM A FOOTPRINT TRAP

Mice and voles walk on footpads . The blue line outlines a forefoot and the red line outlines a hind foot.

These pads have scent glands between them and so as a mouse or vole walks it leaves behind a scent trail for other mice and voles. Mice and Voles leave urine trails that also give scent and the combination of scent marks is specific to the individual mouse and Vole.

The red circles are hind feet and the blue circles fore feet marks.

The difference between fore foot and hind foot is less marked in Voles than mice.

A big discovery was made by the smart eyes of the children.

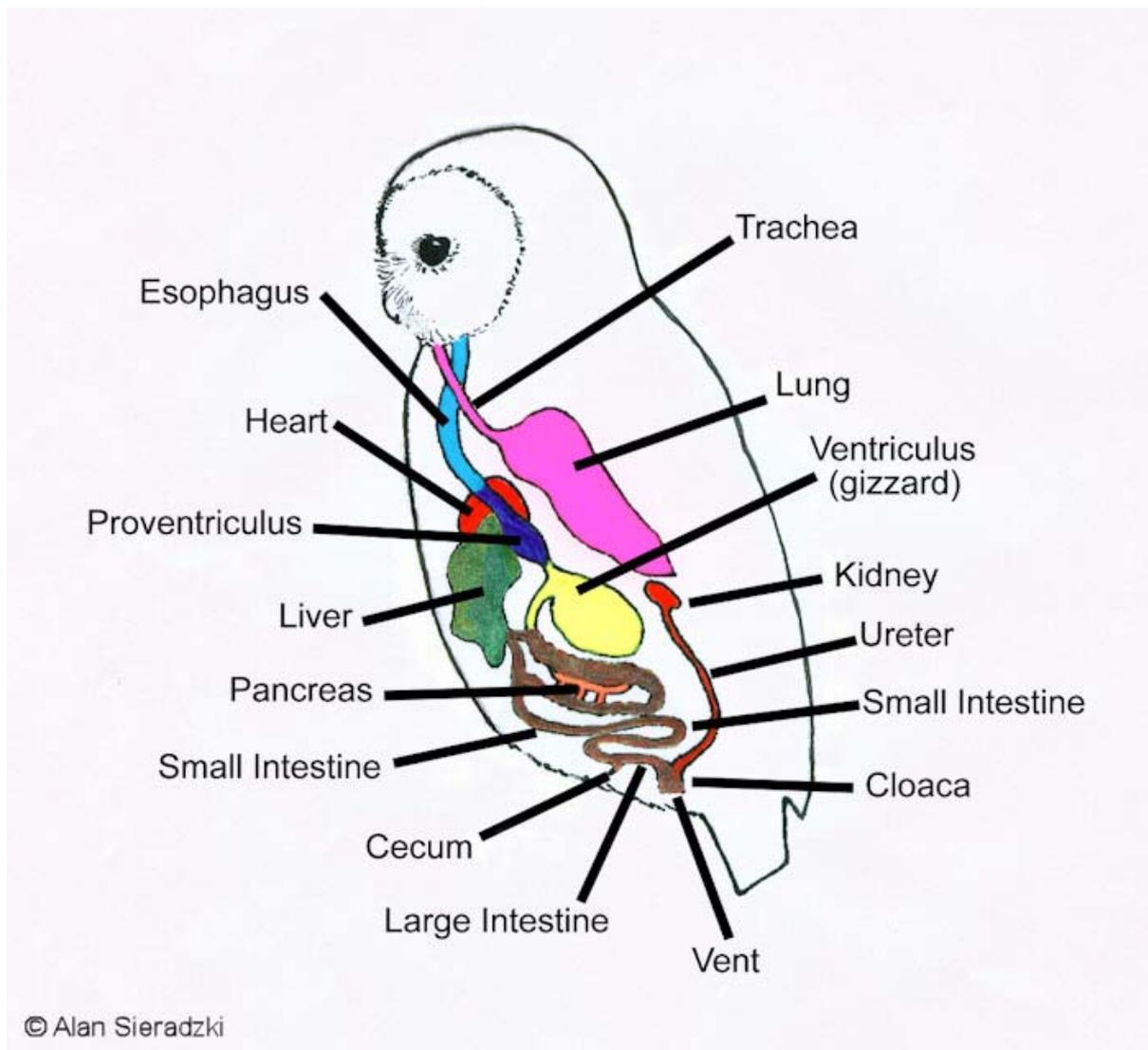


Area where the Owl pellets were found

At the base of young Oak tree were found owl pellets.



Owl pellets are the indigestible remains of an owl's meals.



Above is a diagram of an owl's digestive system. The mouse or vole is swallowed whole. Unlike other birds, owls have no crop which is an expandable sac which acts as a food store for later consumption. The mouse passes straight into the proventriculus which is the first part of the stomach. Here enzymes break down the mouse. The remains pass down into the powerful

ventriculus or gizzard. This is a thick walled muscular sac which grinds down the soft parts of the animal.

The hard parts the bones, fur or feathers (if it is a bird which has been eaten) are retained in the gizzard and the rest passes down into the small intestine where it is digested further.

The hard remains are compressed by the muscular contractions of the gizzard. If another mouse or vole is taken within a few hours of the first its hard remains are added to the first.

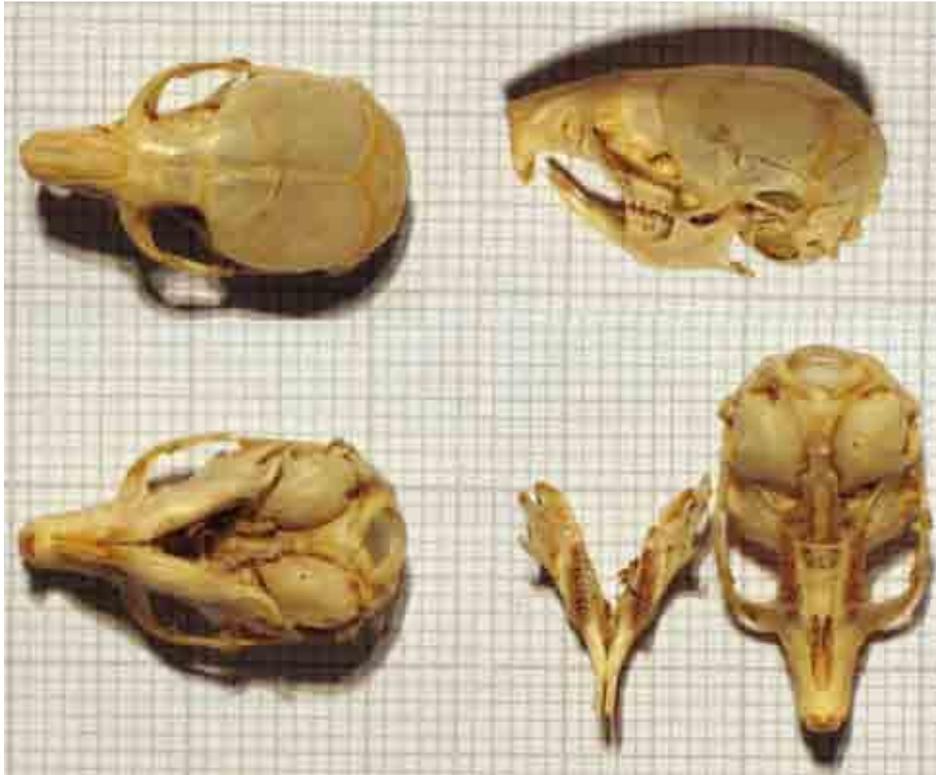
Eventually the owl cannot eat any more now its alimentary canal is blocked by the hard remains. This then is coughed up as a pellet. The maximum retention time of a pellet is 10 hours.

The production of pellets is a regular event regurgitating the remnants after digestion is complete. The production of a pellet means the owl is ready to eat again. Regurgitating the pellet is a real effort for an owl it is uncomfortable. An owl will take a pained expression and will stretch its neck, muscular contraction will push it up and out of the open beak there is no retching or spitting.

Owl pellets contain intact bones as their stomach acids are less acidic than other birds. This gives valuable clues as to what an owl has been eating.



I have not had time to dissect the owl pellets I collected. Here is a collection of mouse bones and insect legs



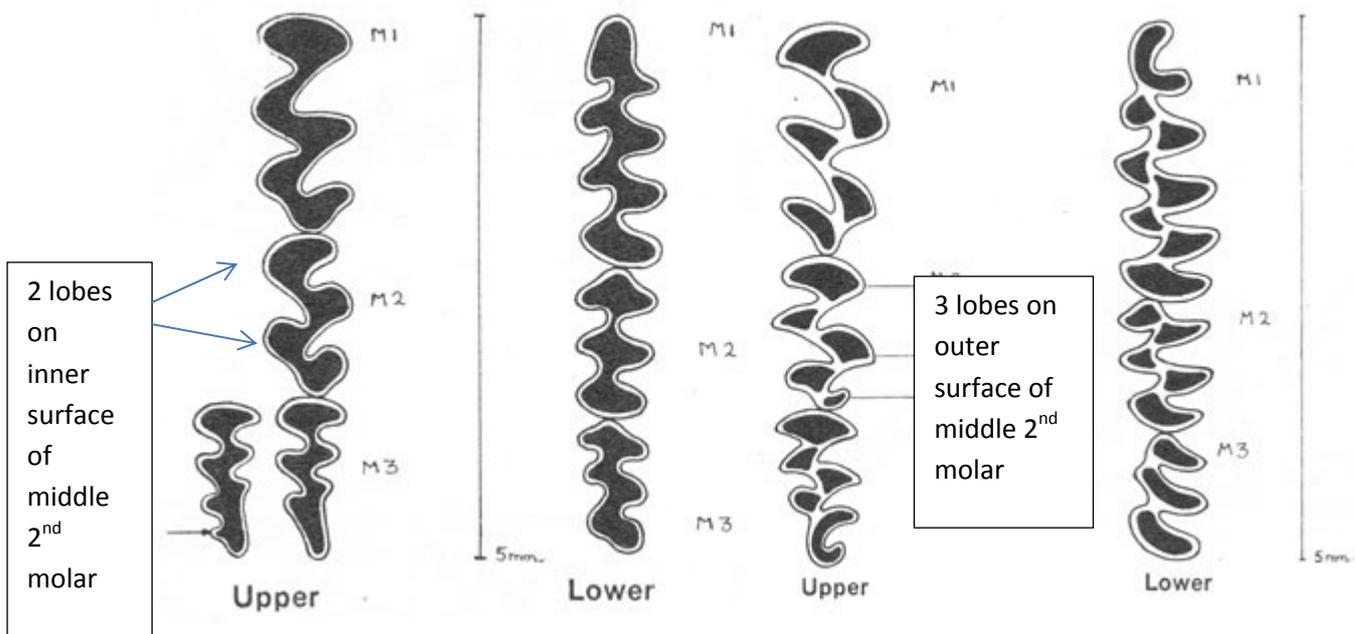
Bank Vole skull

Below is the tooth pattern of Bank and Field Vole . Note the teeth have more rounded edges in Bank Vole. In the upper jaw the middle molar of a Field Vole has 3 lobes on the outer surface. The bank Vole has only 2 lobes.

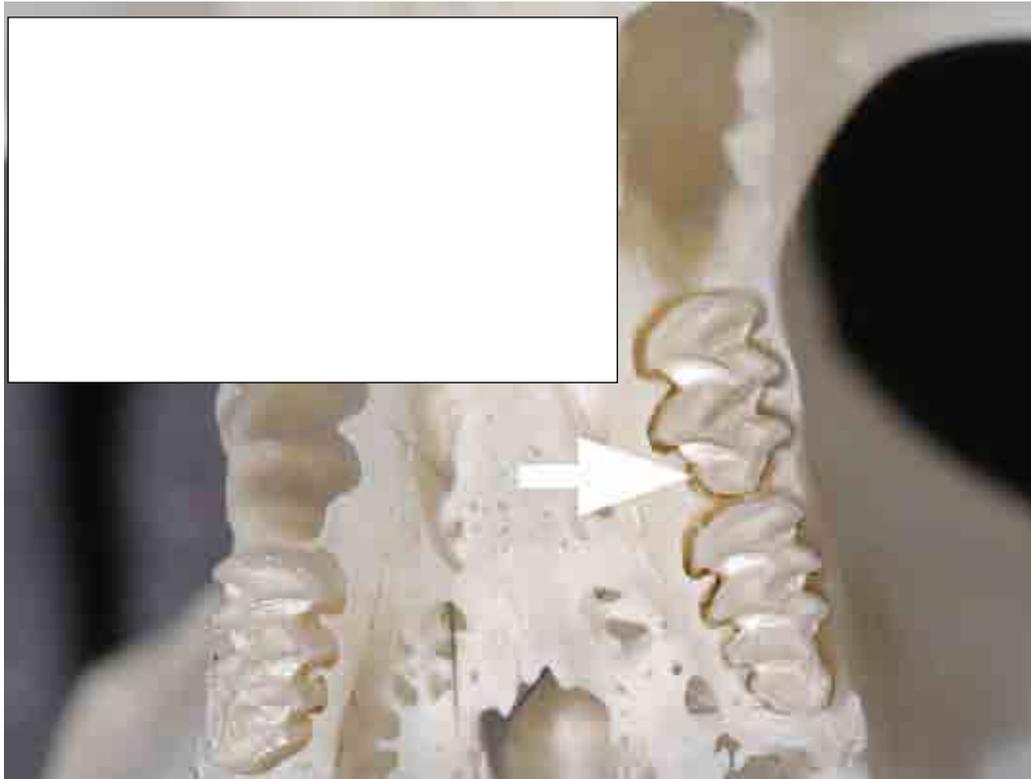
Dissection of one of the Owl Pellets has produced the lower jaws, and tibia of Woodmouse.

Bank vole

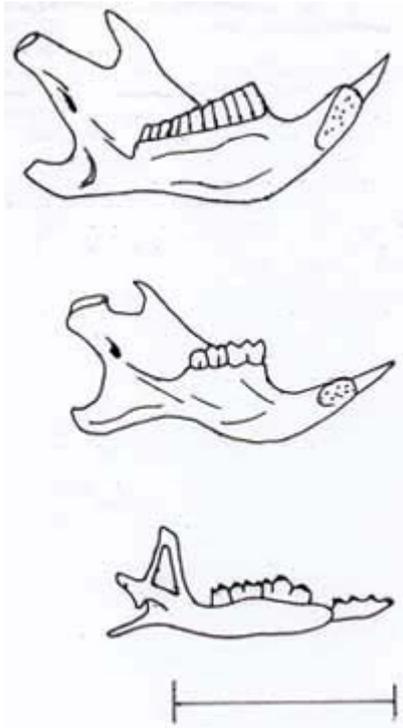
Field vole







Lower jaws Vole upper row and the more delicate Mouse below.



3 lower jaws

The upper one is a Field Vole

The middle one is a Wood Mouse

The lower one is a Common Shrew

The teeth reflect the diet. The vole is a vegetarian with tough ridged grinding teeth. The mouse is an omnivore and eats soft vegetation. The Shrew is generally a carnivore and has sharp pointed teeth for biting through beetles and woodlice.



Skull of Woodmouse showing 4 socket holes for each Molar tooth. House Mouse has 3 socket holes and Harvest Mouse has 5 holes.



House Mouse left and WoodMouse right skulls



Shrew lower jaws. Top is Pygmy shrew, middle is Common Shrew and bottom is Water Shrew.

Note the red tips to the teeth. Only seen in UK shrews.

Finding owl pellets shows that this site is a regular one used by a Twany Owl.



Twany Owl (*Strix aluco*)

Twany owls were thought to have amazing senses. They do but not to the extent that was first thought. Their eyesight is 2.5 times better than us not the 10 to 100 times as was previously thought. What Owls eyes are designed to do is to function well over a large range of nighttime light levels. They do have the ability to turn their heads over 270 degrees. This is due to the design of their vertebrae. Twany Owl hearing is not much better than ourselves. However it is familiarity with their environment that makes them such good hunters. Twany Owls are highly territorial and hold the same piece of land over their whole lives. These Owls know every tree and shrub and this ability is the key to success. It is the owls intimate knowledge of their favourite perches which is the key.

The second trap position had only 1 trap as the other had been taken. This trap had been tied and taped into position below a line of felled timber. The trap went missing on Thursday night as it had vanished on the Friday set up. The rope had been bitten through. No human could have found it. This must have been a fox.

We went on and we heard Robins, Blue Tits and Great Tits. The children found a nice orb web spider. It was a young one but the reddish abdomen



Gave the identity away. This was *Meta segmentata*.

We walked on to the third position. This was just east of Fox Earth mound in dense cover. However once again there was no caught mice or voles. I was secretly thinking we were not going to be successful.

We stopped at Fox Earth mound and discussed the theories about it's origin. The most likely theory is that is a Elizabethan rabbit warren. Right from the Norman invasion rabbits have been an important source of meat. Rabbits were kept inside mounds surrounded by a fence managed by a Warrener. Game meat was the preserve of the King but outside royal hunting grounds the King could sell the exclusive hunting rights. The right to keep rabbits was called free-warren.

Most rabbit warrens are barrow shaped and there is evidence of long barrows on the reserve. The circular shape is unusual as most warrens were shaped like raised long banks or barrows.

The area looks fantastic and there is lots of light coming through.

We talked about the management of this area. That tree felling had been restricted because of the Aspen trees present.

Aspen is a very important tree some of our rarest insects are Aspen feeders.



THE ASPEN LEAF BEETLE *Gonioctena decemnotata*.

It looks like a Ladybird but it is from a different Beetle family.



Aspen bark



Aspen Leaf



No Luck yet again

We came out into Cerrisland with its very large Turkey Oaks



Turkey Oak

Quercus cerris
leaves A
mediterranean
species



Pendunculate Oak or
English Oak

Quercus robur . One of 2
native Oak species.

Lobes less deeply cut.

Here I was very excited. It was a warm day and this was Grass Snake emergence time.

We carefully approached the area, but we were not careful enough. Yes there was a Grass Snake but it slid off. Snakes have no ears but they can sense vibrations and our footsteps scared it off. The view was not great and we could not see the head. This snake must be the same individual we keep on seeing. Grass Snakes are very loyal to their favourite spots. This Snake likes the dense cover on the edge of the grassland.

Grass Snakes are one of 3 UK snake species. The other 2 are the Smooth Snake and the Adder. There have been rumours of Adders on the Common but I have never seen one .



Grass Snake (*Natrix natrix*)



Adder (*Viper berus*).

The Smooth Snake is very rare and is only found in parts of Dorset, Hampshire and Surrey. The picture below shows a Grass Snake on the left and a Smooth Snake on the right.

Grass Snakes are non –poisonous and they catch their prey by surprise attack. Grass Snakes take small mammals and amphibians and swallow them whole. They are excellent swimmers.



**GRASS SNAKE
ON THE LEFT
AND SMOOTH
SNAKE ON THE
RIGHT**

Grass Snakes emerge from hibernation at this time of year and it is these first warm days that gets them above ground, having spent the winter under tree roots and in other underground structures. Each hibernation site is used year on year by the same individuals.

When these Snakes emerge almost the first thing they do is moult. They find a rock or broken end of a branch and use it to help lever themselves out of their old skin.

Grass Snakes can grow up to a meter long , which is bigger than Adders and Smooth Snake. Females are larger and have a longer tail. Grass Snakes mate between May and June and lay eggs in decaying vegetation or manure heaps so that the eggs have a high temperature. The eggs hatch after 6 weeks to 8 weeks and they then disperse. Males are mature at 3 years but females do not reach maturity until their 4th or 5th year of life

Grass Snakes can live for 15 years and mortality is common in their first year due to inexperience.

Grass Snakes defend themselves by their superb camouflage but if cornered will hiss and then emit a foul smelling liquid. Also they can play dead rolling onto their backs with their mouths open and tongue lolling out.

If you try to pick one up they might bite which is painful. I have been bitten I should not have tried to pick it up.

We then checked the traps and YES , YES YES. We had caught a Vole.



Success !!!!!!! a Vole note the short tail.



A Bank Vole (*Myodes glareolus*)

It is not a mouse a mouse has sticky out ears and bigger eyes and a tail almost as long as the body.

There are 3 species of Vole in the UK. The Bank Vole, the Field Vole and the Water Vole. Water Voles are big animals far too big for this individual. Also Water Voles are found by water as their name suggests. The animal above has a reddish tint to the fur. This is not found in Field Vole. Also Field Voles have larger than Bank Voles they also have very short tails a third of the body length. Finally Field Voles have very shaggy fur so much so it covers the ears completely. On this animal the ears show up and so this must be a Bank Vole.

Bank Voles live in woodland areas or in hedgerows. They need good ground cover. Having Bank Voles in a woodland shows the woodland is in good condition as it means there is a high degree of ground cover so there is plenty of light reaching the woodland floor.

Bank Voles are rodents like Mice. They have paired front teeth (incisors). These never stop growing and Mice and Voles have to chew wood or other hard objects to keep their teeth in good shape. They spend a lot of their lives underground in a tunnel system. These tunnels connect to overground “runs”. A run is a track used by a Mouse or Vole and this track is used repeatedly as a “highway” through the Voles territory.

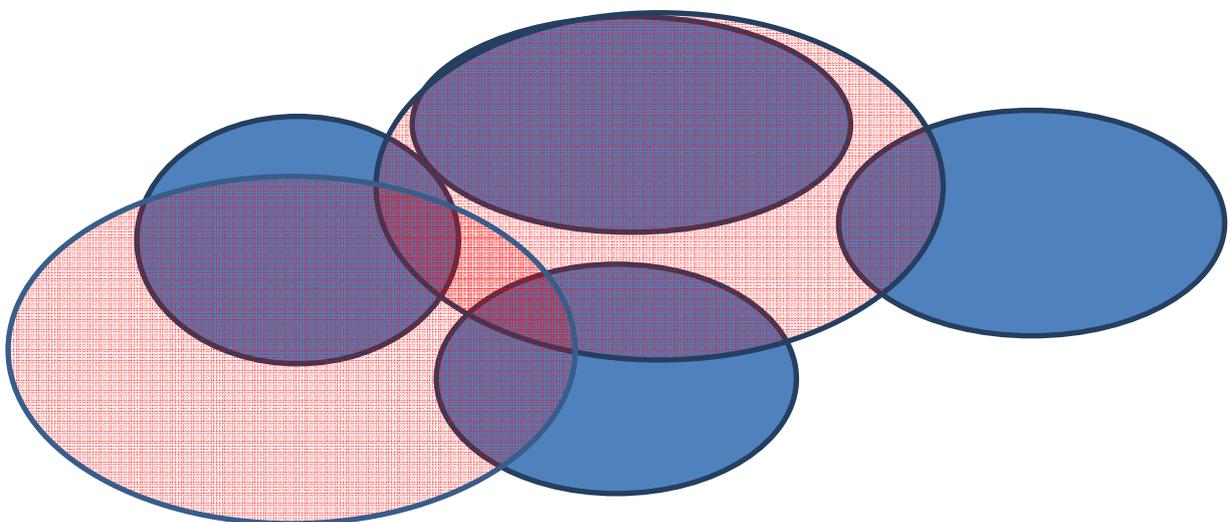
Bank Voles can run quite fast, they are good climbers and swimmers. They are non aggressive to people and do not bite when held.

Bank Voles eat seeds, nuts, berries and roots and bulbs.

A Bank Vole will scent mark the run with its urine and scent marks from glands under its feet and tail. Bank Voles

Bank Voles deposit their droppings throughout their territory unlike Field Voles which deposit their droppings in selected positions or latrines.

Bank Voles are highly territorial. Females hold and defend a territory against other females (blue circles). Male Bank Voles have larger territories which overlap several females.(red circles). The area held by a breeding Vole is called its territory and the area occupied by a vole which is foraging for food is called its home range. Home ranges overlap unlike territories. The size of these areas change with the season and with other factors such as breeding and successful defence of the land.



Bank Voles breed underground usually between the roots of a tree. There will be several entrances to the burrow each about 3cm wide. Each Vole will give

birth to between 3 and 6 pups which are born blind and naked. The Pups communicate with the mother by ultrasonic calls. Hair starts to appear within 4 days of birth. The eyes open after a 12 days. By three weeks the young are off milk and onto solids. Females can become pregnant even before waning is complete. Up to 5 litters are produced a year. The juveniles can breed in their first year and Bank Vole survival in the wild is about 18 months. For laboratory animals 40 months has been recorded.

We released the Vole back where we found it. The animal was rather reluctant to leave the carrier bag.

The children picked out Giant Horsetail (*Equisetum telmateia*).



Giant Horsetail an ancient plant. These plants once ruled the world for one hundred million years. These are the cones from which the spores come.

The stems of this plant were used for scouring.

The other trap was negative and we walked from Cerrisland into Oakmead

We looked for Grass Snake along the top of oakmead as we walked westwards. Again the children spotted the nice things.

They found the plant called Scabious. (*Succisa pratensis*)



This is a member of the teasel family and insects love it.

We passed some Gorse and yes it does smell of coconuts



Gorse a member
of the Pea family.

A great wildlife
plant

We walked past the heather and pointed out the arising pile in the woodland perhaps there were snakes and mammals in that.

We did catch another mammal. This was a Woodmouse (*Apodemus sylvaticus*)





A woodmouse (**Apodemus sylvaticus**)

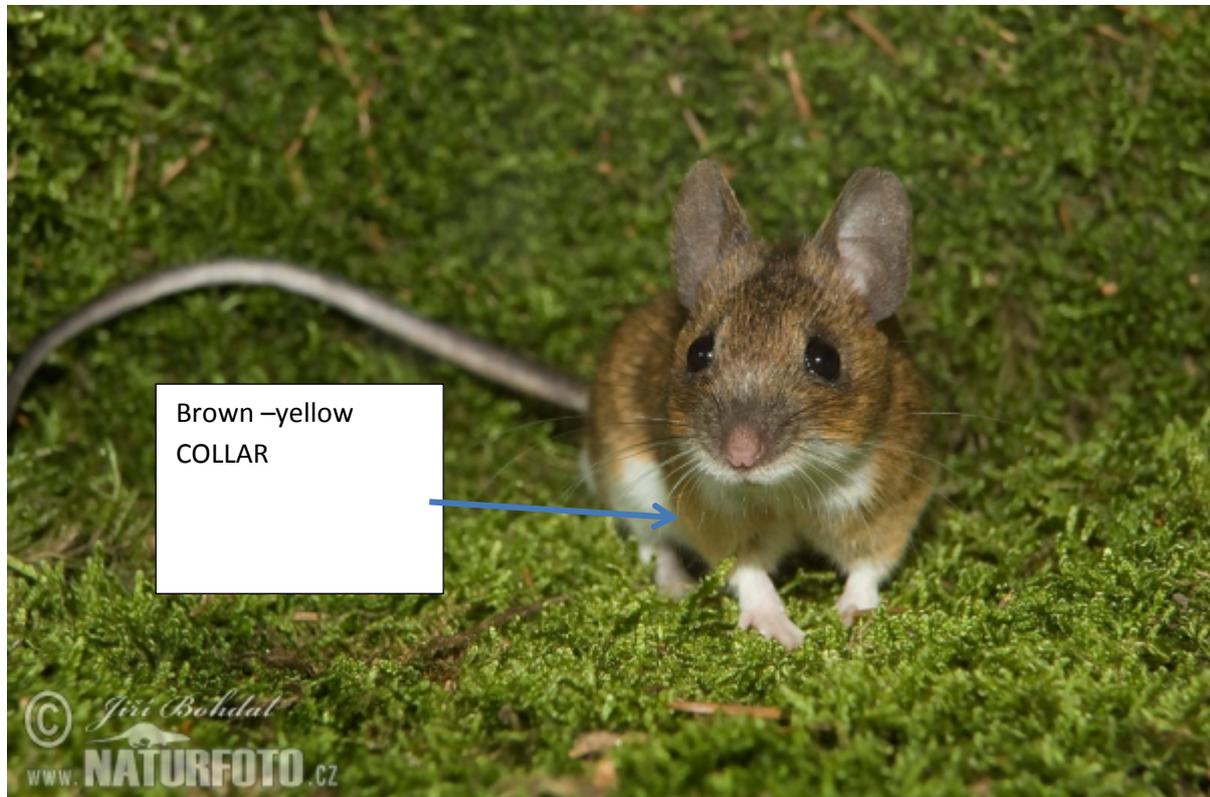
Notice the really long tail and the big eyes and the sticky out ears. This animal is very nocturnal it rarely comes out in the day unlike the Bank Vole. It is our most common rodent and is not restricted to woodland but will be found in almost any habitat including our houses. It, has a 2 tone colouration being whitish below and a sandy brown above., although the colour can vary greatly. In general Woodmice are a warmer colour than the Housemouse (Mus domesticus) also the Wood Mouse is whiter below.



House Mouse (**Mus domesticus**)

There are other UK mouse species and other animals called Mice but which are not true mice but are rodents.

The mouse I was really after is the Yellow Necked Mouse (*Apodemus flavicollis*)



This mouse has a yellow brown continuous collar on the chest as can just been seen above. This is an ancient woodland indicator species and is quite uncommon in the UK.

Woodmice eat both nuts, and berries and also invertebrates. They commonly store food in their burrows and in hidden places above ground. Their diet means they can be found in other habitats. They have powerful hind legs and can jump very well indeed. They are also great climbers and also can swim well.

Woodmice too live underground in a complex tunnel system with several entrances and a central larger nest chamber. They also nest in holes in trees and in bird and bat nest boxes. They have a habit of blocking their entrances with leaves, twigs or stones. They also have preferred runs and feeding areas under shelter. Like Voles they have lots of things that like to eat them such as Owls and Kestrels, cats, Foxes and Badgers, Squirrels and Snakes.

Mice too communicate by scent marking from glands along their flanks and under their tails and bottoms and feet. They spot and trail urinate and this

conveys to other mice social information. From the scent markers and by meetings they know each other as individuals.

Mice hold territory and home ranges. The pattern is generally the same as Bank Vole. The females hold exclusive territories and these are overlapped by larger male territories. In winter two females sometimes share a territory.

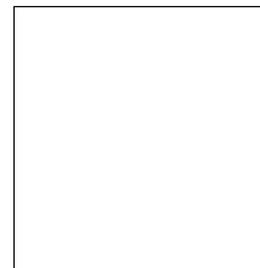
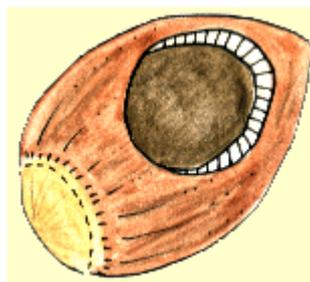
Woodmice breed from March to October, producing litters of 4 to 7 young. The young go onto solid food from 18 to 22 days. The adults weigh between 13 to 27g and the juveniles can breed at 12g in the same year of birth at about 71 days old. A female mouse may have 4 to 7 litters per year.

Woodmice are eaten by the same sort of animals that eat Voles. Woodmice live for about a year in the wild and 4 years in captivity.

You may find signs where mice and voles have been. Their feeding remains can give clues to the identity of the animal. Below are hazelnuts opened by



Woodmouse
opened nut
toothmarks
around hole



We talked about setting up a mammal feeding station. The kids climbed the big Oak tree.



In the northeast corner of Oakmead



A footprint trap



A good set of prints – all footprint traps worked.

We set off for Bluebell Heath walking along the Hawthorn Walk. We showed the big Oak tree and the old Hawthorn.

In Bluebell Heath we walked beside the Orchid field and we showed Slender St. John's Wort and Marsh Thistle



The medicinal plant Slender St. John's Wort *Hypericum pulchrum*.

Note the opposite leaves with no leaf stalk. This is the identification feature of this St. John's Wort species.



The flower of Slender St John's Wort.

Flowers June to August

12-18mm across

We stopped at the big wood pile by the Scots pines and the newly discovered Black Pine trees. (black pine on left) (scots pine on right)



Then we moved onto New Heath and showed Mat Grass, Heath Grass, Hard Fern and Purple Moor Grass.



Mat Grass = tussock of tough wiry leaves.

Found in poor acid soils



Mat Grass (*Nardus stricta*) flowers. Notice the flowers all droop one side of stem= diagnostic feature

I explained about the lottery projects. First came New Heath which was launched by the London Biodiversity partnership in 2006 to 2008. Once woodland it had burnt by a fire and the dense bracken remnant was bulldozed in 2008 and sown with Heather from Hounslow Heath.

The land slope from north to south and from dry to wet and the vegetation changes from Gorse, Heather and dry grass species to Rushes and Sedges.

The success of New Heath led to the second lottery project, the restoration of Bluebell Heath and we did see the beginnings of some Bluebells. Lots of small trees were felled and then one area was clear felled and then bulldozed. Heather from New Heath was sown into what is now called New Scrape.

The land is recovering from the top soil removal and new plants are emerging.

New Scrape dates from 31.1.2013.

Then we went behind New Scrape and we once again had trapped a Woodmouse. This animal ran up my arm and onto my shoulder. The Snake hibernaculum was showing no activity.

We walked to the ancient Apple tree where the last trap was. We had a good look at the tree and described its conservation.

The work needed to keep the reserve in good condition is huge and we spend hundreds of hours per year.



Volunteers at work in the Orchid Field.

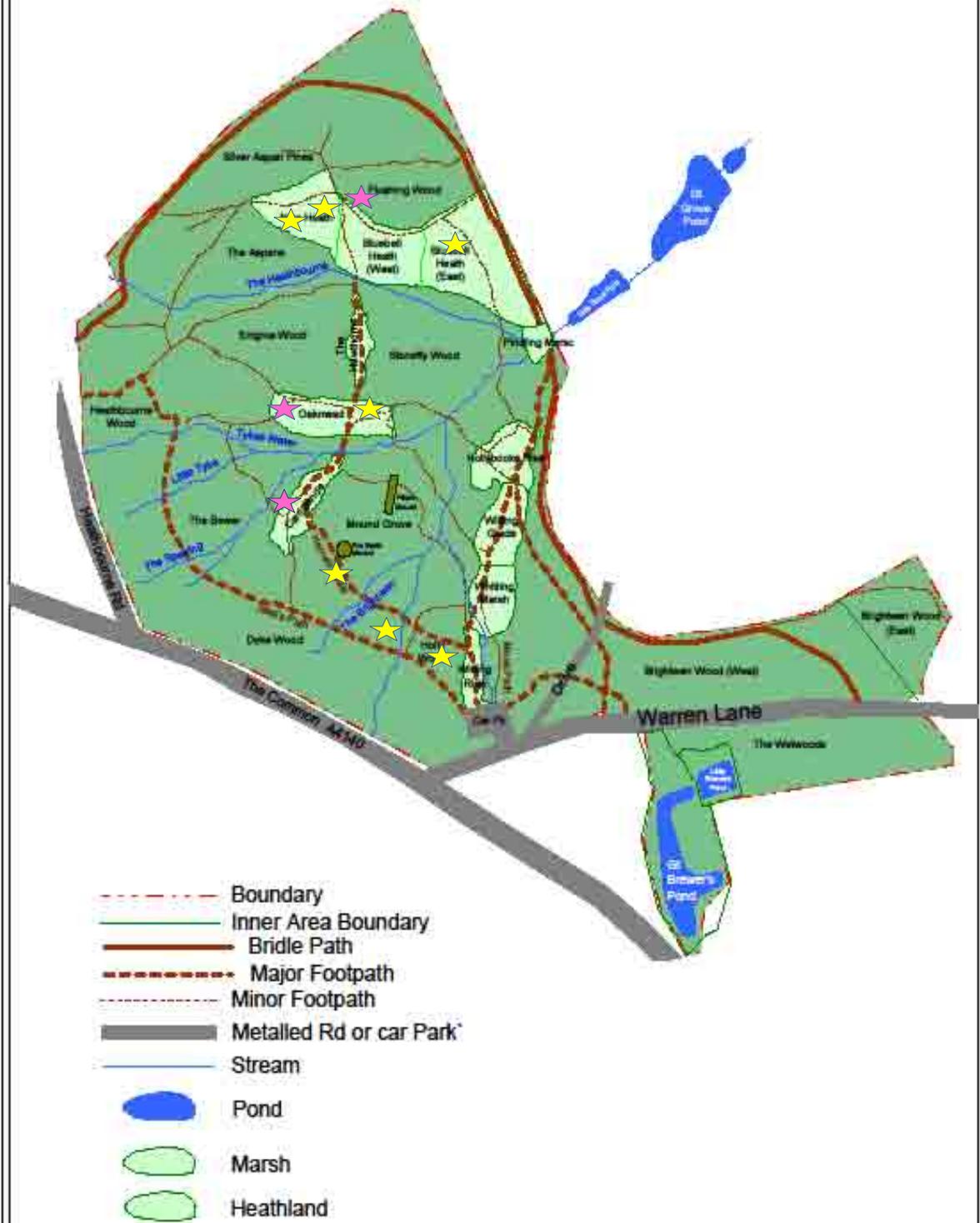
We then headed downhill and back to the car park via the beautiful Pynding Mersc.



A BIG THANKS TO ALL THOSE WHO CAME ON THE WALK

MAP SHOWING TRAP LOCATIONS THOSE TRAPS WHICH WERE
SUCCEFULL ARE COLOURED PINK.

The



REPORT FOR WORK PARTY WEDNESDAY 18TH MARCH 2015

ATTENDEES: Phil Bryson, Johnathon Freedman, Marios Brooks, Imran Ahmez, John Bugler, Rory Normandale, John Winter, Neville Day, David Green, Tony Gourdin, Simon Braidman,

10.30am to 3.30pm

Weather sunny 9 to 11 degrees centigrade wind northerly.

TASK as per management timetable.. Opening up south west corner of Hollybrook Rise (Compartment 17).

ACTUAL TASK .. Working in Cerrisland Compartment 18.

Tools list 3 rakes, 2 scythes, 6 bowsaws 3 spare blades (not used) 6 loppers, 2 billhooks

INTRODUCTION

Work continued on the successful start made on Sunday 11th March 2015. The intention is to expand the clearing, reduce nutrients in the surface soil and to create a suntrap down the southwest corner. (task 2 on map below) On approaching the clearing from the south along the Nature trail short route it was obvious that the very large Holly trees (*Ilex aquifolium*), were blocking valuable sunlight entering the clearing. It was a spur of the moment decision to remove them (task 4 on map below) . Neville noticed that the mid clearing path heading west which crosses the Speiring stream leads to quite an open area which could be further opened up by Holly control. This too was included in the task (task 3 on map below).

Finally there were two jobs which were outstanding. One was the clearing of the bare earth bank known as Bonzo Bank West which lies in the top North-west corner of New Heath (task 1 on map below) The second job was requested by John Dobson which was to move the wood pile to the upslope and north of the Orchid Field which is numbered Parcel 4 in the Bluebell Heath management plan maps. The first job was included as task 1 and the second job left. It is a big job and close examination of the slope below the wood pile shows nutrients should flow south west into The Aspens (Compartment 23) not south into Parcel 4

We split up into 4 groups. John Winter worked on his own doing task 2. He moved an old brash and wood pile beside the western path through Cerrisland cut and raked an area just north of the Grass Snake basking area.

Neville and myself went off to New Heath to do task 1. It was a lovely day.



Tony Gourdin and Imran worked on task 3. Everyone else was working on task 4 the removal of the very large Holly trees.

John Winter uncovered a lot of new grass and Dandelions and he has significantly reduced soil fertility by removing the leaf litter. We did not see any Grass Snakes unlike the guided walk on March 1st.



Grass Snake (*Natrix natrix*) basking area with good ground cover





John's work area post moving and raking



Pile of raked material

Neville and myself cut and raked Bonzo bank west bare of dead bracken. The rakings were placed on an old arisings pile nearby. (no pictures taken). We walked across the stunning landscape and walked back to the others. We joined the team removing Holly around the Speiring Stream. John Bugler and David Green joined our team. The Holly arisings were placed under Yew that had their lower branches removed (lifted).

It was discovered that many trees both large and small in this area were Aspen (*Populus tremula*). The bark of the tree is distinctive as is the leaf.



As Aspen is an important tree these will be preserved.

Meanwhile a major effort was going on to remove the 2 huge Holly trees south of Cerrisland.



The view southwards of the big Holly Trees

Lunch was taken after the first huge Holly had been felled and there were plenty of nice biscuits and soup.



The Holly trees have gone. Note acid grassland tussocks in foreground.

TASK COMPLETION AND FURTHER WORK

The team took down the second Holly but it got hung up in a large Oak tree and chainsaw work is needed to clear the tree. There was an immediate and large improvement in light levels here post removal.

Bonzo Bank west is now got exposed bare soil and should be used by nesting solitary bees and wasps.

There is further scope to control Holly west of Cerrisland and also to remove other small trees to open up the woodland and to get more Aspen.

David Green started to coppice the taller trees along the western boundary and there is scope to remove a few more.

No tree in the south or north section (except the 2 huge Turkey Oaks) of Cerrisland should be allowed to grow to maturity and all should be coppiced on a cycle.

WILDLIFE



John got this picture of an adult Common Frog (*Rana temporaria*) Eggs have been laid in Pynding Mersc in the usual spot.

The warming weather encouraged 7 spot ladybirds (*Coccinella septempunctata*) and red tailed Bumblebees (*Bombus lapidarius*)



The queens are out of hibernation and are urgently feeding up. Sallow (*Salix caprea*) and Cherry (*Prunus* sp) are important nectar plants in March.

We also saw young Long Jawed Orb Web Spiders (*Tetragnatha* sp).



There were loud sounds of Toey .. Toey .. Toey of Nuthatch



NUTHATCH (*Sitta europaea*).

This bird, the only western European species of it's family spends it's life vertically climbing up and down tree trunks. In fact of all UK tree climbing birds it has the fastest downwards descent It has 2 forward pointing and 2 backward pointing toes with long claws and a short stubby stiff feathered tail as adaptions to this mode of life. The birds hold all year around territories which they defend vigorously. They feed on dead wood invertebrates, seeds and nuts. They nest in holes in trees The birds plaster the entrance hole with mud to ensure a tight fit to deter predators

A huge thanks to the volunteers who had a great time.



The Volunteers minus a few.

REPORT FOR GUIDED BAT WALK FRIDAY 8TH MAY 2015 ON STANMORE COMMON

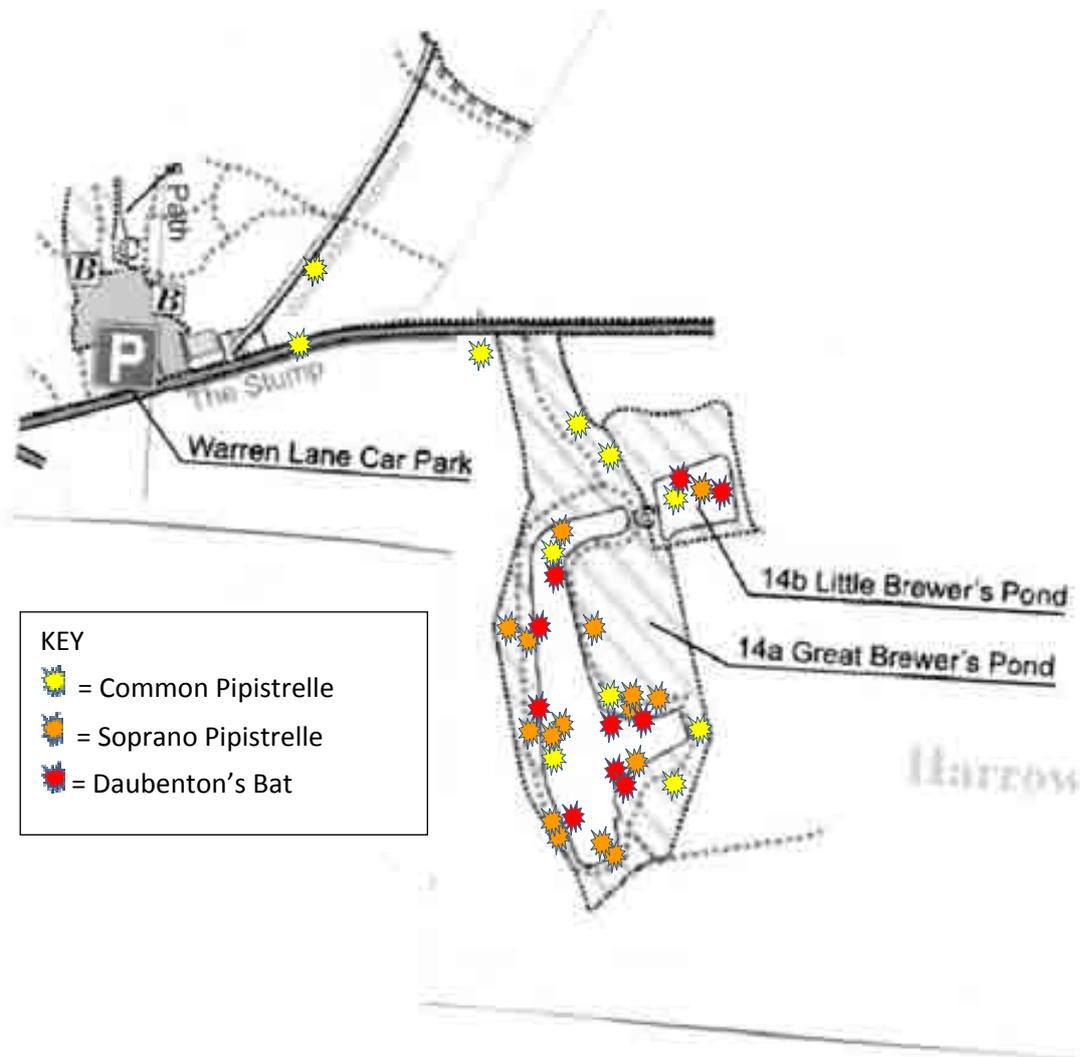
ATTENDEES: Simon Braidman, David Winton, Wendy Knight, Julia and David Stone, Amanda Wooley, Bevan, Dinah and Samantha Loon.

8pm to 10.50pm

WEATHER Overcast 12.7 Degrees centigrade 11mph SW rain at times

Rather than wander around at random I decided to follow the Bat Survey Route 1 for Stanmore Common.

BAT RECORDS ON BAT WALK FRIDAY 8.5.2015. EACH SHAPE MARKS A RECORD AND THE NUMBERS OF SHAPES IN A POSITION = LEVEL OF ACTIVITY.



Time pm	Position	Bat	Passes	View
8.17	1 Gate by Estate	None	None	
8.36	2. Lampost	None	None	
8.38	2.lampost	Common Pip	Repeated	Saw 2 bats
8.48	Between 2 and 3 crossing Warren Lane	Common Pip	Brief call	No View
8.51	3 start of cricket pitch	None	None	None started raining
8.54	4 middle of stretch of pitch	None	None	
8.57	5. End of cricket pitch southern boundary	Common Pip	1 pass	No view
9.04	6. ivy covered tree stump	Common Pip	1 pass	No view
9.07	Between 6 and 7 just north of stop point 7	Common Pip	Repeated passes	Saw bat
9.12	7. Between 2 ponds looking over Little Brewer's Pond	Daubenton's Bat	Repeated passes	Saw bat
9.20	7 Between 2 ponds looking over Little Brewer's Pond	Soprano Pip	Repeated passes	
9.28	8 where pond straightens up	Common Pip	Passes	
9.32	8 where pond straightens up	Soprano Pip	Repeated passes	
9.32	8 where pond straightens up	Daubenton's Bat	Repeated passes	Saw bat
9.38	Half way down eastern side of pond	Soprano Pip	Repeated passes	Saw bat
9.40	9 on bend of southeast arm of pond	Soprano Pip	Repeated passes	Saw bat
9.44	9 on bend of southeast arm of pond	Daubenton,s Bat	2-3 passes	Saw bat

Time pm	Position	Bat	Passes	View
9.49	On north face of south east arm	Daubenton's bat	repeated	
9.50	On north face of south east arm	Soprano Pipistrelle	Repeated passes	Saw bat
9.52	10 . In Dell	Common Pip	1 pass	
10.05	By Lake east of bin	Common Pip	Repeat pass	No View
10.05	By Lake east of bin	Soprano Pip	Repeat pass	Saw bat against trees good views
10.06	By Lake east of bin 4	Daubenton's Bat	Repeat passes	Very good view
10.13	11. BY house	none	None	
10.17	11by house	Soprano Pip	2 passes	No view
10.18	Wooden posts on ground south west corner of pond	Soprano Pip	Repeated passes	No View
10.18	Wooden posts on ground south west corner of pond	Daubenton's Bat	Repeated passes	Saw bat
10.25	Bay on south west stretch of pond	Common Pip	Repeated passes	
10.28	Bay on south west stretch of pond	Soprano Pip	Repeat Passes	Very good views
10.28	Bay on south west stretch of pond	Daubenton's Bat	Repeat Passes	good views
10.35	2 nd bay on western side	Daubenton's Bat	Repeated passes	Saw bat
10.35	2nd bay on western side	Soprano Pip	Repeated passes	Saw bat
10.40	13.dark zone west side	Daubenton's Bat	Repeated passes	Saw bat
10.43	West side	Daubenton,s Bat	Repeated passes	Saw bat
10.43	West side	Soprano Pip	Repeated passes	Saw bat
10.48	14 end point	none		

We had a lot of bat activity. Conditions were not ideal as the wind got up and there was rain. However wherever the bats were sheltered they appeared.

The results are typical for the survey with the bats associated with water such as Daubenton's Bat and Soprano Pipistrelle concentrated in the area of the pond itself.

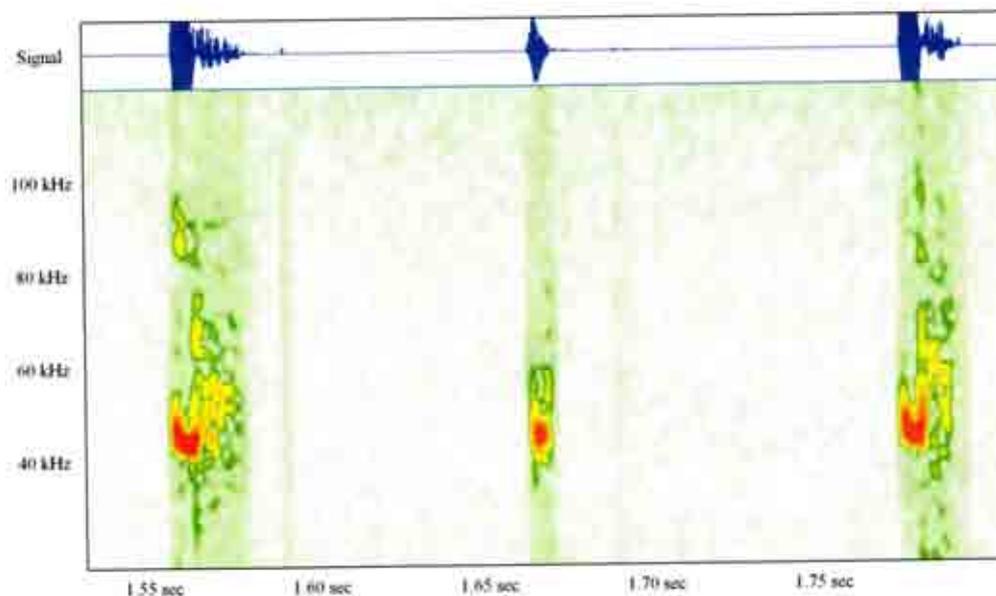
We identified the bats using the sound from the heterodyne bat detectors. These work by subtracting the incoming bat shout from an internal frequency and we can hear the difference.

The tone and depth of the click and how rapidly they come and the frequency they shout the loudest (The peak frequency) are all clues to work out the bat.

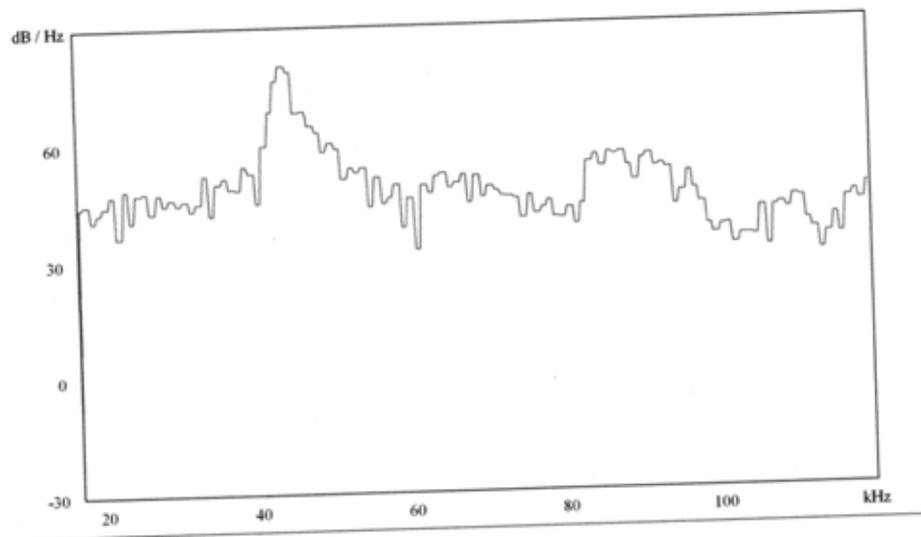
With Common Pipistrelles the peak frequency should be around 45Kilohertz (kHz). We can hear up to 20kHz. A heterodyne bat detector tuned to 45kHz should hear the clicks as wet low pitched slaps. A heterodyne detector only analyses a thin slice of each bat call.

I had a frequency division detector attached to a digital recorder. Frequency division detectors analyse the full range of signals in each bat call. The detector produces its own internal signal equivalent to the incoming one and every 10 incoming signals it outputs a single signal of the same duration .

These signals can be analysed. I ran some of the recorded wave files through a bat analysis programme called BATSCAN (FREE). and got the trace below



This trace shows a COMMON PIPISTRILLE. There are 3 calls in the window. The depth of the colour equals the energy put into the ultrasonic shout. The call on the left is a typical Pipistrelle ultrasonic echolocation call. It is shaped a bit like a reversed J shape. The other 2 calls a less typical but bats vary their calls to maximise the information received in the echo. If you do a peak energy diagram on the 1st peak in the window you get the trace below



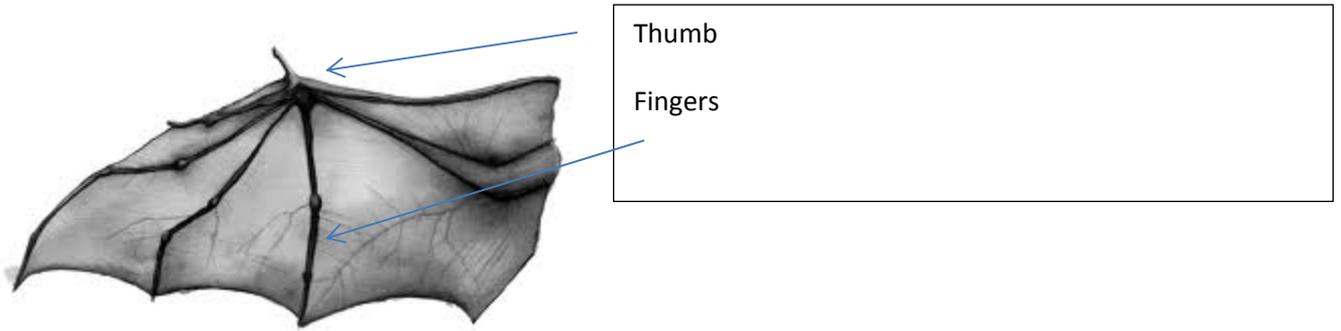
Notice the energy peak at around 43.6Khz. This is close to 45kHz and we can identify the call as coming from a Common Pipistrelle.

A Common Pipistrelle bat (*Pipistrellus pipistrellus*) is pictured below.



It is the UK's commonest bat with an estimated population of 2 million but this is far lower than what it used to be. The teeth have spiky edges to break up the hard chitin shells of insects.

Bats like us have a thumb and 4 fingers except their fingers are hugely elongated with skin stretched between them.



This structure makes bat wings highly foldable and makes changing wing shape easy and this makes all bats highly manoeuvrable in the air much more so than birds.

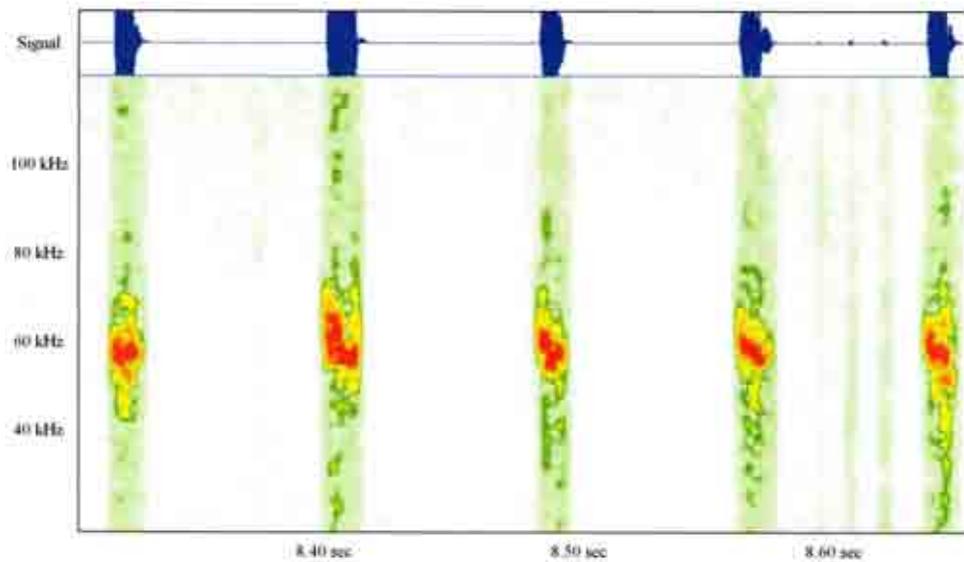
A Pipistrelle bat can fit into a matchbox and as we found out last night they can squeeze into a CD box.

The eyesight is good about the same as ours and they do have colour vision. These bats are not long out of hibernation. They have spent the winter in a crack or crevice, somewhere cold and wet. In hibernation a bat heart rate drops from 600 beats per minute to around 30 and body temperature from 39 degrees centigrade to air ambient. A bat in hibernation uses less than 1% of energy of a bat at rest but not in torpor or hibernation. Even in summer a bat can drop its body temperature, heart rate and breathing rate. The ability to control body temperature at more than one level is called heterothermy. Bats have special brown fat stores that enable them to survive poor conditions.

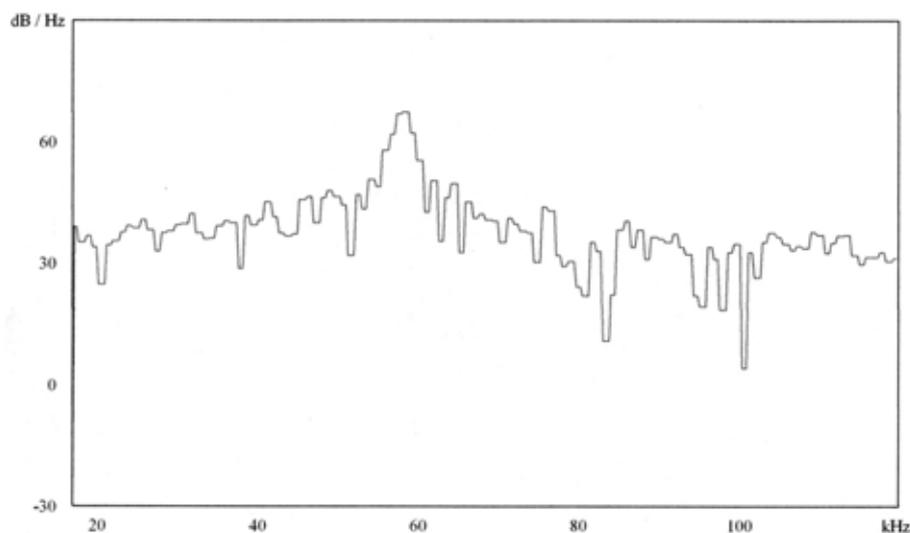
It allows temperate region bats to overcome winters.

We also detected Soprano Pipistrelle (*Pipistrellus pygmaeus*).





Above is a trace for this species and you can just about make out the typical reverse J call. A peak energy trace gives: Note the peak energy is 58kHz. This is in the range of Soprano Pipistrelle.



There is another Pipistrelle in the UK but it is quite rare. If you get a zero point (maximum energy) of around 40kHz, then it is probably a Nathusius Pipistrelle (*Pipistrellus nathusii*). This species does occur on this reserve.

Pipistrelles eat 2-3000 small insects a night about a third of their bodyweight. Gnats, midges, mosquitos, lacewings and micromoths are common prey. Soprano Pipistrelles as they hand around water eat Caddisflies, Mayflies, Stoneflies as well as the above.

Bats breed in June/July and form maternity roosts. For Pipistrelle bats the males hold separate territories. The females give birth to one baby usually at the end of June or the beginning of July. The babies are left behind and then suckled when she returns.

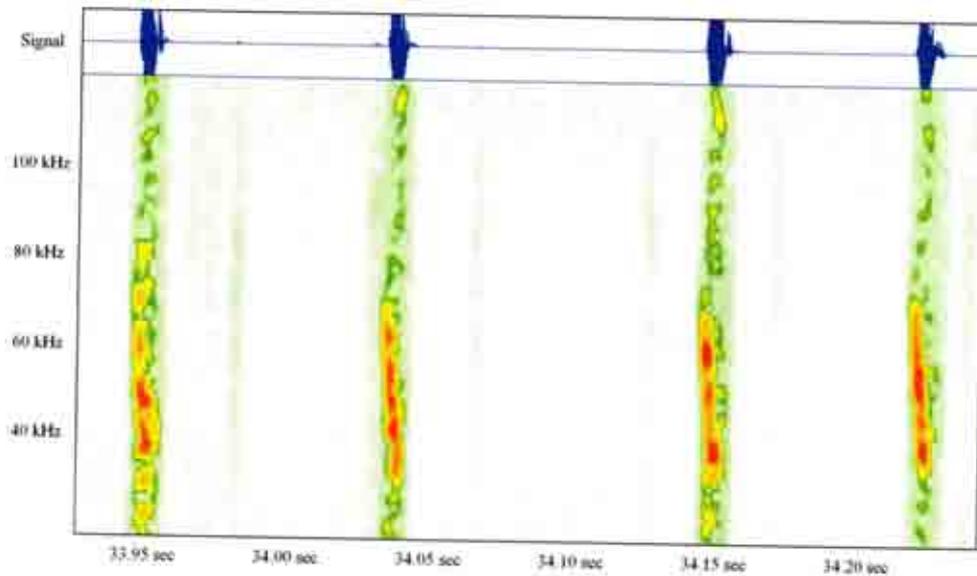
Bats need high temperatures to breed and modern centrally heated houses are ideal for Pipistrelle bats.

WE did detect a third bat species. This is the Water Bat or Daubenton's Bat (*Myotis daubentii*).

Daubenton's Bat hunting

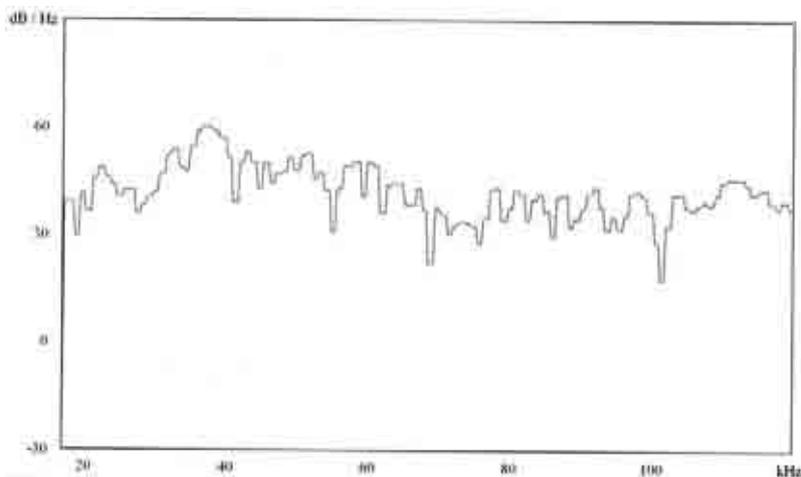


Daubenton's Bats have very large feet, the largest feet per body size of any bat. This is an adaption to their life over water. They use their big feet to gape their insect prey, which are adult midges, mosquitos and other insects as they leave the water on hatching out. Daubenton's bat are bigger and heavier than Pipsitrelle bats. Daubenton's Bat is a member of the *Myotis* genus of bats. There are 6 UK species of this genus; Brandt's Bat, Whiskered Bat, Natterer's Bat, Daubenton's Bat, Bechstein's Bat and Alcothoe Bat. Unfortunately they all sound almost identical on a bat detector and even highly experienced bat workers will often just count them as members of the genus rather than identify them to a species. On a heterodyne detector, they all sound similar with dry clicks with no tone which barely changes as you tune the detector up and down. However the habit of Daubenton's Bat skimming the surface of lakes and pools is unique so if you see a bat doing this on a straight low skimmy sweep you can be reasonably confident it is a Daubenton's Bat.



Here is a trace for a Daubenton's Bat but it could easily be one of the other species if it had not been seen visually. On some traces you can see a distinct kink or curve in the shape and this is distinctive to the species but it is not always present. Above there is no real evidence of it.

An energy diagram of a Daubenton's Bat will not show clear peaks as Myotis Bats spread the energy of their shouts across a range of frequencies. There is a peak at 36kHz which is on the lower limit of energy peak range



I hope everyone enjoyed the walk and we did see a lot. Thanks for coming.

REPORT FOR WORK PARTY WEDNESDAY 13TH MAY 2015

10:30 am to 3:30 pm

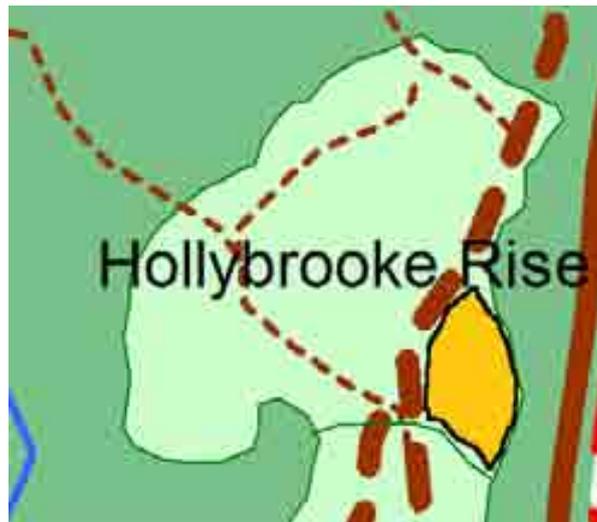
ATTENDEES: Marios Brooks, John Bugler, Phil Dryson
Jonathan Freedman and John Winter

Weather: 20⁰ C and sunny

TASK: SCYTHING OF BRACKEN & REMOVAL OF HOLLY

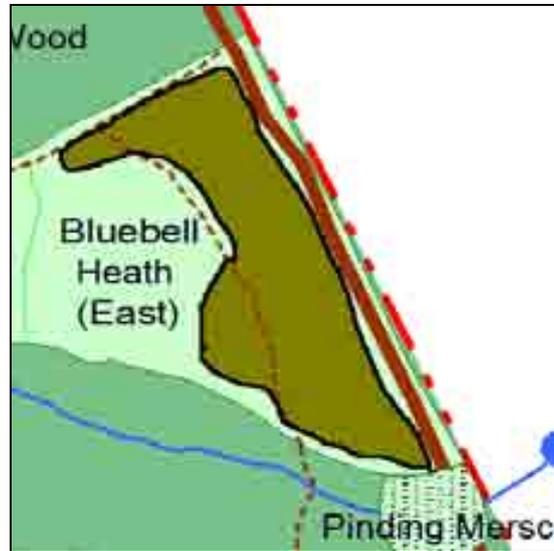
LOCATION: HOLLYBROOKE RISE & BLUEBELL HEATH

The original intention was to concentrate on Bluebell Heath but as we made our way up to the heath it was noted that the bracken to the right of the footpath at Hollybrooke Rise (see map detail below) was quite bad so we cut down the emerging bracken.



As the cut heads of the new bracken were small it was decided to leave them in situ as they would have been difficult to collect with the large rake.

We then proceeded up to Bluebell Heath and all began cutting down bracken with the exception of John Bugler who decided to concentrate on clearing Holly to the south near Pinding Mersc. The area cleared is as shown in the map detail below.



Jonathan Freedman

Marios Brooks



Phil Dryson

As we started to cut down the bracken I noted that there was a considerable amount of dead bracken and leaves from last year about 2/3rds of the way up on the right of the footpath so I decided to clear this away instead of cutting. There was very little emergent growth in this area anyway.



Before



After

REPORT FOR THE WORKPARTY SUNDAY 24TH MAY 2015

ATTENDEES. Simon Braidman, John Winter, later joined by David Green

10.30am to 3.30pm

Weather sunny 18 degrees centigrade

TASK

Botany survey in Bluebell Heath.

INTRODUCTION

The lottery project to restore the acid grassland habitat is in its 3rd and final year. The trees have been felled and the scraping by bulldozer has occurred. (Jan 2013)

The area now is far more open than in 2011. The scrub level has declined. However succession back to woodland still continues. Every year the clearing is analysed for its recovery status.

Recovery is measured by 4 surveys.

1. Sketch of the subcompartments
2. An assessment of each habitat type within subcompartmentd
3. A DAFOR abundance analysis
4. Fixed Point photographic survey.

By these techniques it is hoped that an assessment can be made over time of the health of the clearing. The aerial map shows Bluebell Heath and its 11 subcompartments.

There were originally 10 subcompartments or parcels but when the clearance work was extended in 2012 a new clear-fell area was created called Flushing Glade (Management Compartment 24). The intention after this extra area was cut was to naturally allow this area to go back to woodland, but I changed my mind and we now work to keep this area as an addition to Bluebell Heath.

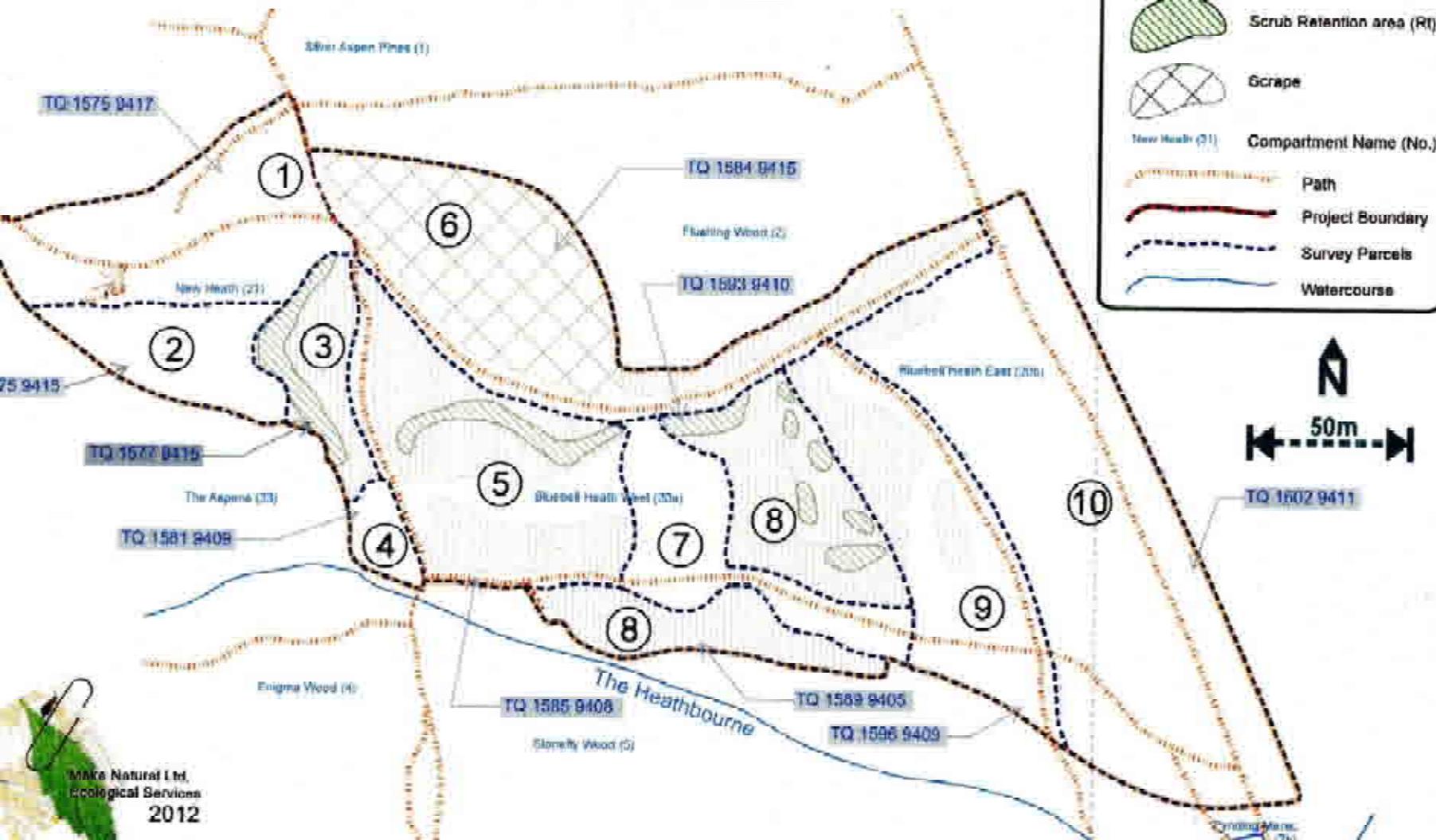
The surveys times due to other projects did not start at the same time each year. This year we started early, towards the end of May. This has the advantage of catching the early flowers such as Wood Anemnone (*Anemone nemorosa*).

It was so early it predated most of the grasses.

BLUEBELL HEATH AERIAL PICTURE FROM GOOGLE EARTH.



Bluebell Heath Project - Parcel Map



KEY

- Scrub Management (SM)
- Scrub Retention area (RI)
- Grass
- New Heath (21)
- Path
- Project Boundary
- Survey Parcels
- Watercourse

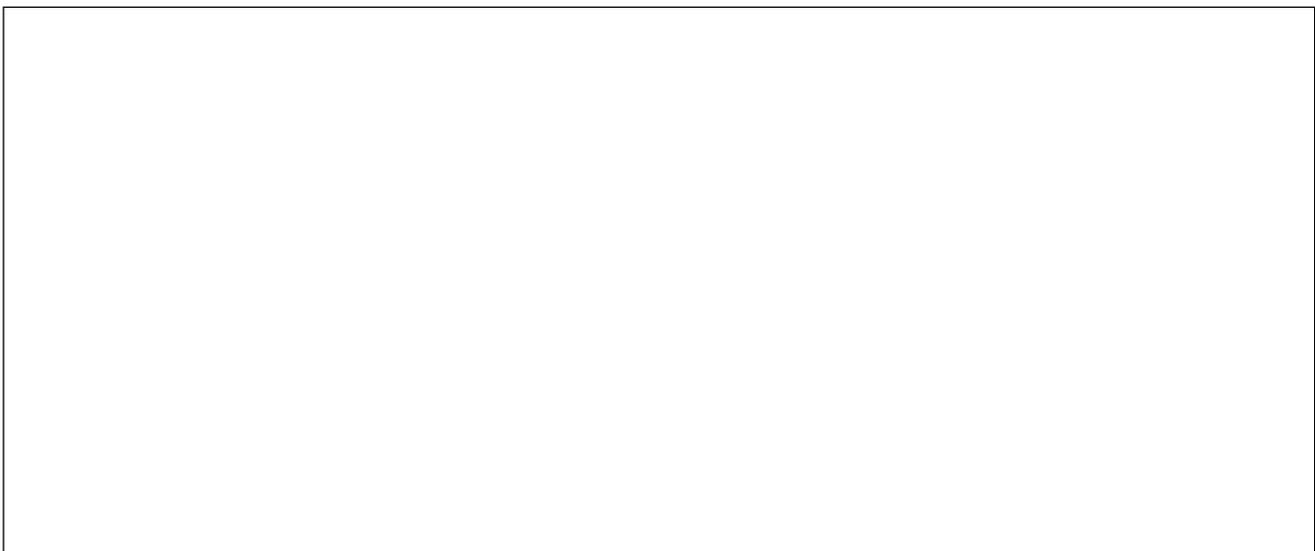
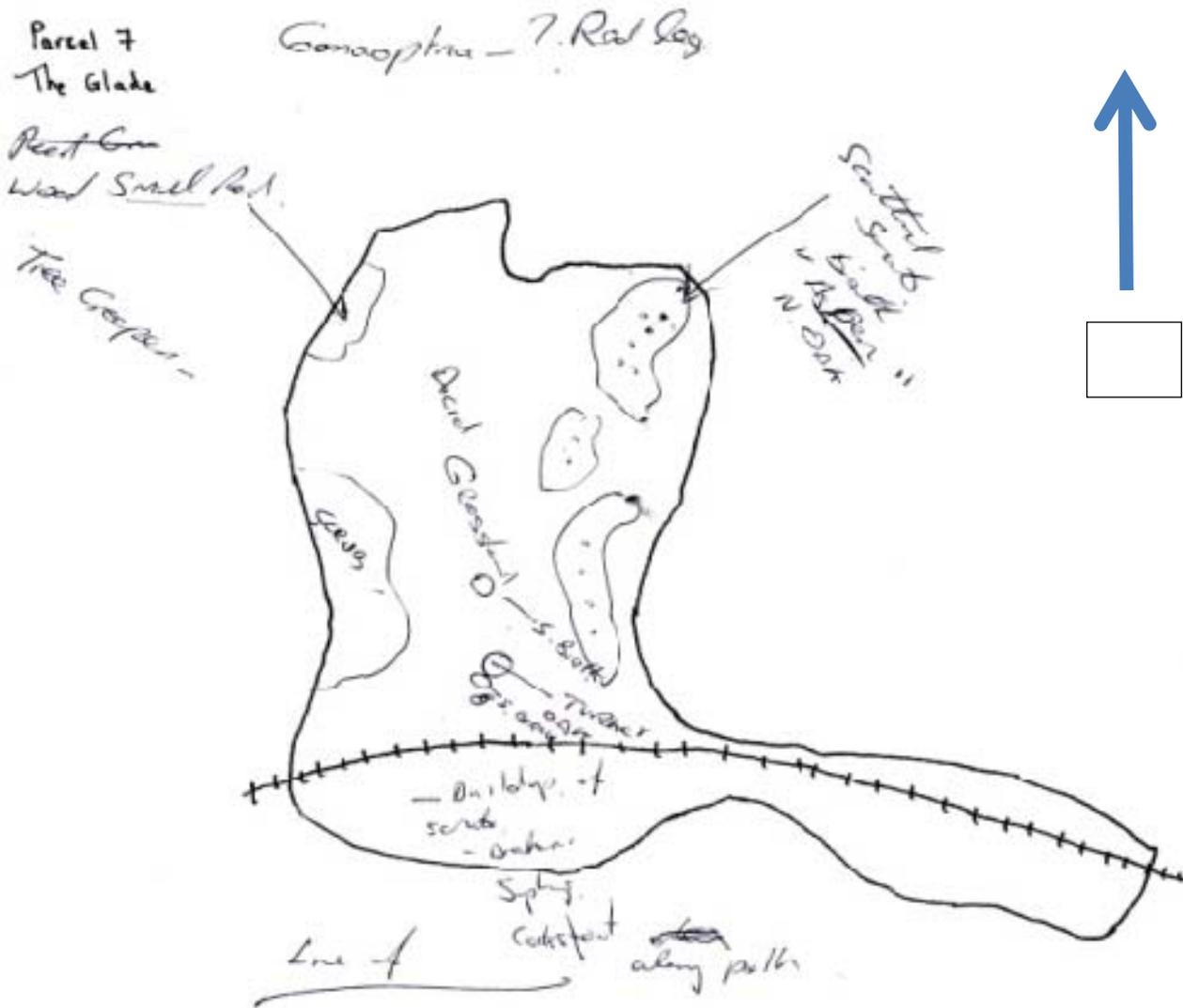
Compartment Name (No.)



SKETCHING THE PARCEL

Each parcel is sketched.. Blank parcel maps have been produced and these are filled in by the surveyor. Areas of different habitat are sketched in and interesting features noted.

Below is a uncleaned up, crude sketch of parcel 7 in the centre of Bluebell Heath.



The rest of parcel 7 is acid grassland. Sketching is a good method as it produces a reasonable accurate record of the results year by year.

)

An assessment of each habitat type within subcompartment

After sketching the parcel we have to give an estimate of the % cover of each habitat type.

A form is filled out with lots of details about the site name, parcel number, the type of open space, its planning status (Local Nature Reserve), any facilities such as tennis courts, ownership, public access, accessibility, maintenance, level of use and quite a lot more. The good thing is that the details are basically the same for each parcel. Critical issues are maintenance and management, threats and disturbances and changes since last survey. Once all that information has been filled in then one has to make an estimate of the different habitat types as if one was viewing it from above.

This can be quite difficult and it also requires a knowledge of parcel boundaries. The figures are subjective. In this case, a survey from Wednesday 27th May 2015 on Parcel 11

Boundary		Date: 27/5	
Site and parcel no: 11			
Habitats (%)			
<input type="checkbox"/> 01 Native broadleaved woodland	<input type="checkbox"/> 08 Acid grassland	<input type="checkbox"/> 16 Bog	
<input type="checkbox"/> 02 Non-native broadleaved woodland	<input type="checkbox"/> 09 Neutral grassland (semi-improved)	<input type="checkbox"/> 17 Reeds/water	
<input type="checkbox"/> 03 Coniferous woodland	<input type="checkbox"/> 35 Neutral grassland (herb rich)	<input type="checkbox"/> 40 Typha etc. swamp	
<input type="checkbox"/> 37 Scattered Trees	<input type="checkbox"/> 10 Basic grassland	<input type="checkbox"/> 18 Wet marginal vegetation	
<input checked="" type="checkbox"/> 05 Recently felled woodland	<input type="checkbox"/> 11 Improved / reseeded agric grassland	<input type="checkbox"/> 19 Fen carr (woodland / scrub over fen)	
<input type="checkbox"/> 06 Scrub	<input type="checkbox"/> 07 Amenity grassland	<input type="checkbox"/> 20 Standing water (includes canals)	
<input type="checkbox"/> 38 Planted shrubbery	<input type="checkbox"/> 12 Ruderal or ephemeral	<input type="checkbox"/> 21 Ditches (water filled)	
<input type="checkbox"/> 25 Native hedge	<input type="checkbox"/> 33 Roughland (intimate mix of 9, 14 & 6)	<input type="checkbox"/> 22 Running water (rivers & streams)	
<input type="checkbox"/> 34 Non-native hedge	<input type="checkbox"/> 13 Bracken	<input type="checkbox"/> 23 Intertidal mud, sand, shingle etc	
<input type="checkbox"/> 31 Orchard	<input type="checkbox"/> 14 tall herbs	<input type="checkbox"/> 24 Saltmarsh	
<input type="checkbox"/> 36 Vegetated walls, tombstones etc	<input type="checkbox"/> 15 Heathland	<input type="checkbox"/> 30 habitat information not available	
<input type="checkbox"/> 26 Bare soil and rock	<input type="checkbox"/> 39 Allotments (active)	<input type="checkbox"/> 29 Other	
<input type="checkbox"/> 27 Bare artificial habitat	<input type="checkbox"/> 28 Arable		
<input checked="" type="checkbox"/> Tree line w/out hedge	<input type="checkbox"/> Hedge w/tree line	<input type="checkbox"/> grazed	<input type="checkbox"/> Frequently mown
<input type="checkbox"/> Even-aged plantation	<input type="checkbox"/> Ancient woodland	<input type="checkbox"/> Infrequently mown	<input type="checkbox"/> Cuttings removed Y/N
<input type="checkbox"/> Coppice	<input checked="" type="checkbox"/> Dead wood	<input type="checkbox"/> Unmanaged grassland	<input type="checkbox"/> Ridge & furrow
<input type="checkbox"/> Flush	<input type="checkbox"/> wet	<input type="checkbox"/> stub	<input type="checkbox"/> wet
<input type="checkbox"/> pollarded	<input checked="" type="checkbox"/> Wood shrub layer	<input type="checkbox"/> Sand/clay bank	
		<input type="checkbox"/> Floating vegetation	<input type="checkbox"/> Submerged vegetation
		<input type="checkbox"/> Emergent vegetation	<input type="checkbox"/> saline <input type="checkbox"/> tidal
		<input type="checkbox"/> Naturally formed river bank	
		Trophic status:	
		<input type="checkbox"/> eu-	<input type="checkbox"/> meso- <input type="checkbox"/> oligo- <input type="checkbox"/> dys-
Interest		Species Richness	
<input checked="" type="checkbox"/> Invertebrate	<input checked="" type="checkbox"/> Bird	<input type="checkbox"/> Poor	<input type="checkbox"/> Average / rich
<input type="checkbox"/> Fish	<input checked="" type="checkbox"/> Higher plant	<input type="checkbox"/> Poor / average	<input type="checkbox"/> Rich
<input type="checkbox"/> Amphibian	<input type="checkbox"/> Bryophyte	<input type="checkbox"/> Average	<input type="checkbox"/> Not known
<input type="checkbox"/> Reptile	<input type="checkbox"/> Lichen		
<input type="checkbox"/> Mammal	<input type="checkbox"/> Fungi		
Nature Conservation Value (surveyor's personal opinion)			
Dead wood level high (fallen mostly) Acid grassland invading from south. Good interesting hillside topography. Lichens + bryophytes problems. Introduced Heather - a few plants - taken out. Some bare soil habitat - high value area needs a lot of work.			

The figure of 100% recently felled woodland is given. Another surveyor may instead view this as being composed of a mixture of habitats.

The third survey is called a DAFOR survey. This stands for Dominant, Abundant, Frequent, Occasional and Rare. It is marked under the criteria below:

DOMINANT above 75% GROUND COVER

ABUNDANT 51 TO 75% GROUND COVER

FREQUENT 26 TO 50% GROUND COVER

OCCASSIONAL 11 TO 25% GROUND COVER

RARE 1 TO 10% GROUND COVER

A Suite of around 30 plant species are chosen for analysis. These plants were chosen by John Dobson an ex-warden who is still actively involved in the reserve.

The plant species were chosen because they are:

POSITIVE INDICATORS OF GOOD QUALITY ACID GRASSLAND

NEGATIVE INDICATORS OF GOOD QUALITY ACID GRASSLAND

INTERESTING SPECIES OR CASUAL RECORDS.

The species are quite varied. Some are trees. Aspen (*Populus tremula*) is one of the tree species. This species is both positive and negative. It is an important tree for invertebrates as seen above but also it would not be good to have huge amounts to detriment of the grassland itself.



Leaf of Aspen

Some of the plants are grasses such as Brown Bent (*Agrostis vinealis*),



Brown Bent Grass (*Agrostis vinealis*)

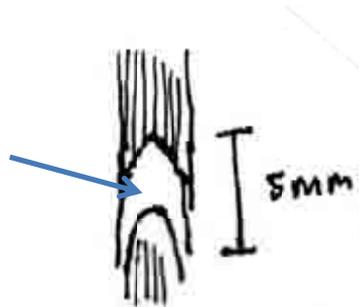
This is a positive indicator of good acid grassland. It thrives in dry well drained acidic soils.

However it is not an easy plant to identify and we often lump this grass together with other bent grass species..

The key features are the narrowness of the flower head (the panicle)

The length of the ligule a membrane lying between the leaf sheath and the stem is helpful.

ligule



Velvet Bent Grass *Agrostis canina*.

Narrow flower head and long pointed ligule

If

If you find some long pointed ligules over 2mm this will rule out Velvet Bent. The other key indication is habitat Velvet Bent likes damp soils and Brown Bent likes dry soils.

Some plants are negative indicators such as Bracken and Birch trees. This is not to say these plants have no value. Bracken and Birch trees are important elements even in acid grassland. However one does not want a grassland habitat densely covered in Bracken or scrubbed up with Birch saplings.

Each parcel was scored across the suite of plants.

It is noticeable that virtually all many of the positive indicator flowering plants gave a score of Rare. In my view this indicates that the method is not robust enough and that a better way is needed to score plants. I feel a fixed quadrat system would give better results and also focus management.

Finally all the plant species in a parcel were recorded and also notes made about the management of the parcel and nay species showing massive changes in population.

One species which is rapidly increasing across Cerrisland as well as Bluebell Heath is Creeping Soft Grass (*Holcus mollis*).



FLOWER HEAD
(PANICLE) OF
CREEPING SOFT GRASS.

HAIRY KNEES (NODES)
ON THE STEM OF
CREEPING SOFT GRASS



The photographic survey is yet to come.

The survey results need to be checked and analysed and this will be done.



We did see tiny beetles on the Aspn in Bluebell Heath. They had been nibbling tiny holes. These beetles are Flea Beetles. They have large hind legs which gives them the springing power. These Beetles belong to the genus *Crepidodera*. There are 5UK species of this genus and careful examination is required to separate them.

REPORT FOR THE WORKPARTY WEDNESDAY 27TH MAY 2015

ATTENDEES. Simon Braidman, Neville Day, Marios Brooks, Jonathon Freedman, John Bugler, Rory Normandale. John Winter.

10.30am to 3.30pm

Weather sunny 18 degrees centigrade

TASK S

1. Bracken clearance in Hollybrook Rise
2. Small tree clearance in Bluebell Heath
3. Botany survey in Bluebell Heath.

We divided into teams. Neville and myself did the botany survey in Bluebell Heath and the others did the bracken clearance.



Bracken and scrub at the north end of Hollybrook Rise



Area cleared of bracken

The arisings were put on a pile off the northern edge of the clearing.

John Bugler worked in Bluebell Heath on some tree work.

At lunchtime everyone moved to Bluebell Heath.



Bracken



Rory



John starting out in Bluebell Heath , Parcel 10



John clearing around old Oak to make it a feature.

Neville and myself did the botany surveys on parcels 11 and 7.

WILDLIFE

We always hear Buzzards We saw and photographed this magnificent Hornet (*Vespa crabro*). This species is the only native Hornet to western Europe. Hornets are social insects with a queen and a band of sterile females which go out and collect food. The Hornet is Britain's largest social wasp. Only the queen survives the winter and she emerges in spring and finds a suitable location to build a nest. This is often a hollow tree. She makes the initial structure of a few hexagonal cells from chewed wood pulp and saliva which hardens to form a strong light structure. She is already pregnant from last year and she lays her first eggs. These are unfertilised and hatch to produce worker Hornets. Once the first generation of worker Hornets are produced she stays in the nest and she is fed by the workers. They collect tree sap and thousands of insects. It takes about 30 to 37 days from egg laying to hatch a worker Hornet. Hornets are gentle animals and only sting if highly provoked or their nest is threatened.



The newly hatched Hornet stays beside unhatched cells and their body heat incubates the developing larvae. Only hornets who go and collect fresh building material do nest building. Food items are passed between individuals. Queens measure 35mm and workers 18-25mm. Hornets have incredible night vision and they will often come to your windows at night. Hornets use their wings to warm up nests and dribble water they collect to cool nests down. The nest grows in size a layer at a time, each horizontal layer on a short pedicel.

Hornets use their powerful jaws to dismember their insect prey and convert it into meatballs” which they carefully feed to the larvae. In exchange in times of heavy rain and strong winds the larvae secrete a sugary solution to feed the workers who cannot forage.

If the nest cavity becomes too small, the queen will leave the old nest with a few workers and build a new nest in the new location and then both nests are kept in operation until the larval brood in the old nest is raised to adulthood and then the old nest is abandoned. BY Mid August to September the colony may number 400-700 animals and the nest may be 60cm high.

At this point the queen lays eggs producing new queens and young male Hornets.

The workers stop feeding the old queen who weakens, leaves the nest and eventually dies. The workers feed up the young queens and ignore any worker larvae. On warm autumn days the queens and males swarm and mate and the males die shortly afterwards. The fertilised queens leave to look for hibernation sites. John Winters family found a hibernating queen in a cavity under a log. The workers die off in early November.

A treecreeper (*Certhia familiaris*) was heard. This bird climbs up tree trunks, using its fine curved beak to pick up invertebrates in and on the bark of trees.

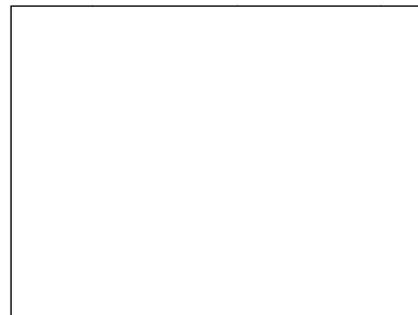
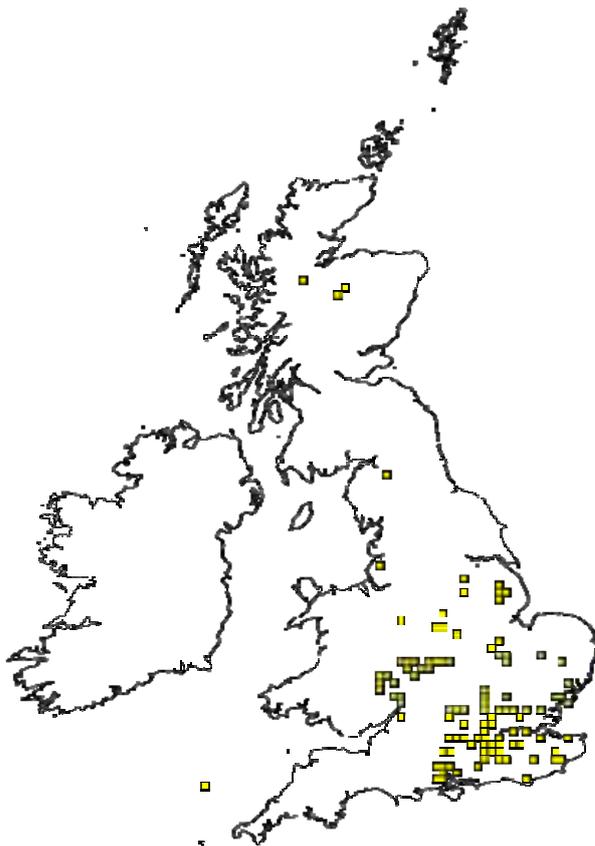


We also saw the uncommon Leaf Beetle (*Gonioctena decemnotata*)



© V.I. Gumenyuk

This looks like an overblown Ladybird but it is not closely related. Both are Beetles of the Order Coleoptera, but the above beetle belongs to the Leaf Beetle Family the Chrysomelidae. The Chrysomelids are differentiated by their leg segment formula and the antenna position. There are 35,000 species worldwide and 281 in the UK. Ladybirds belong to the Beetle Family Coccinellidae. There are 5000 Coccinellids worldwide and 47 species in the UK, including our most familiar Ladybird species. *Goniocnena* is a vegetarian and chews holes in the leaves of Aspen (*Populus tremula*) and Willows (*Salix* sp.).



REPORT FOR GUIDED WALK SATURDAY 6TH JUNE 2015

STANMORE COMMON LOCAL NATURE RESERVE 1.30PM

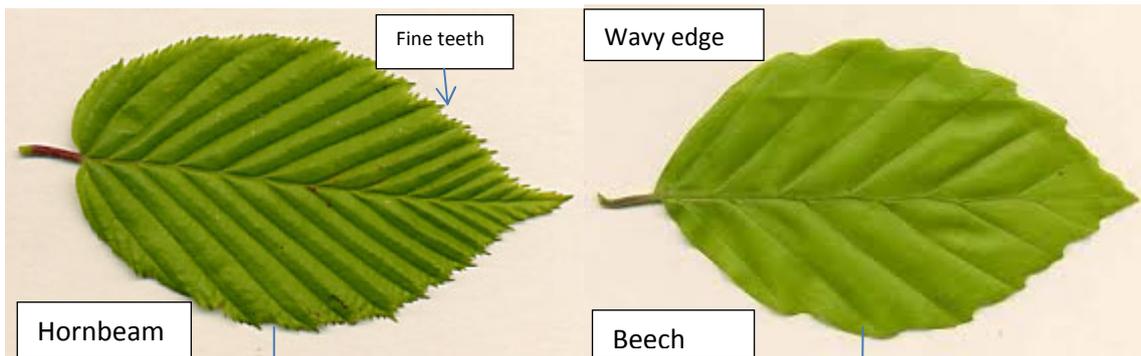
ATTENDEES; Simon Braidman, Emmanuelle Braidman, David Bearfield, Hazel Bearfield, Josh Kalms, David Winton, Bob Husband, Leith Bolan, Wendy Knowles, Sally Holt, Simon Freeman, Reece Freeman, Amanda Woolley, Marian Rostelli.

Weather sunny 16 degrees centigrade 8mph westerly.

Bob had some leaves for identification. One was Wych Elm and the other an unknown species thought to be Dogwood so we diverted to look for the planted Dogwood.

At first we walked down Jake's Path, path named after a local dog.

We looked at some trees on the path. One was Hornbeam (*Carpinus betulus*). It's leaves are distinctive with it's fine teeth and close parallel veins, compared to Beech (*Fagus Sylvatica*). In winter the 2 trees in the mature state can be separated on bark with Hornbeam having fluted bark and Beech having smooth bark.



BARK



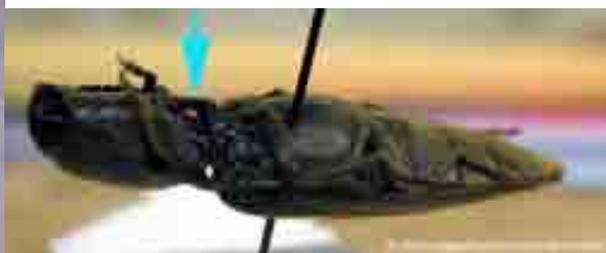
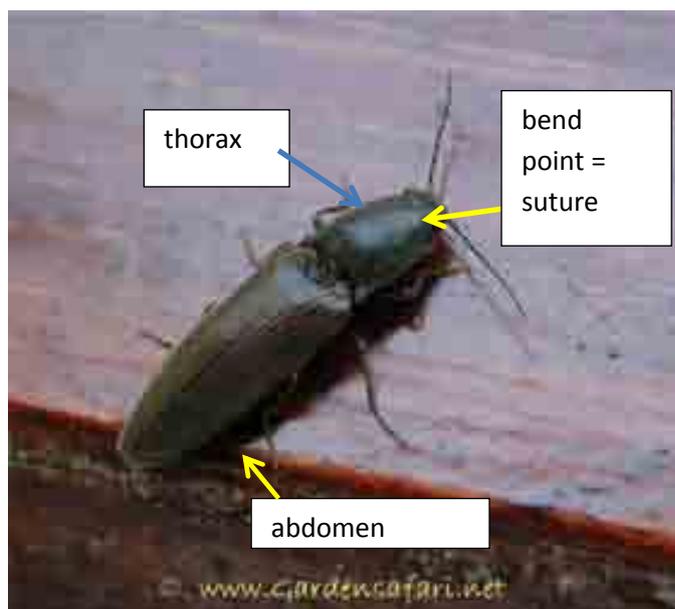
WINTER TWIG S

Shorter buds slightly compressed and held close to line twig. Twig reddish with fine spots



Cigar shaped buds Long sharp warm brown buds which point outwards

Reece found a Click Beetle. Click Beetles are a family of beetles called the Elateridae. There are 73 species of Click Beetle in the UK. Click Beetles have an ingenious escape mechanism when on their backs.



underside of click beetle the blue arrow shows the peg that sits in a groove with a lip that locks the peg in place

Athous haemorrhoidalis

The beetle arches its back so that only the tip of the abdomen and the thorax touch the ground. Then powerful muscles contract around the peg. The thorax has a suture a joint which can move independently but the peg being locked in the groove stops the thorax moving. This puts a huge strain energy on the body like stretching an elastic band. Eventually the spine unlatches from the groove and the parts of the body in contact with the ground snap upward at a huge speed. The whole beetle is catapulted into the air. It allows the beetle to startle predators and to right itself if it finds itself upside down. It can also make a clicking sound without leaping by unhinging the peg and sliding it back into the groove. The noise startles predators. Click beetles have fine control over take off. The take off angle is 79 degrees however the rotation and landing is uncontrolled due to the huge forces generated. The larvae of these beetles are called wireworms and many of them they live in rotting timber inside trees. A few species are pests of crops such as potatoes and tomatoes.



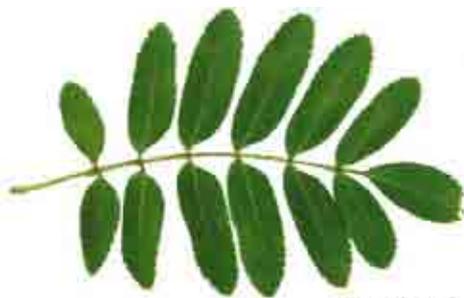
Wireworm – a click beetle larvae.

We did not see many birds. The woodland cover was hiding them. They were vocal and we heard Blackbird and Blackcap, Blue Tit and Coal Tit, Robin and Wren.

We found a lot of young Ash trees in the clearing we made for the Wild Service tree. Ash trees have the pinnate leaf pattern. This is where there are 2 rows of leaves opposite each other around a central branch.



Ash (*Fraxinus excelsior*), showing pinnation.



© KonzeptWerkstatt Mountain Ash or Rowan (*Sorbus aucuparia*), showing pinnation.

By the way Mountain Ash is poorly named the 2 trees are not related. Ash is a member of the Olive family, the Oleaceae and Mountain Ash is a Rose, the Rosaceae.

We found the Wild Service Tree It is a native species and an ancient woodland indicator



The leaf is distinctive and the winter twigs have small green rounded buds where the terminal bud is similar in size to the alternate side buds. The bark is smooth, greyish and later turns scaly and flaky



Wild Service Tree young



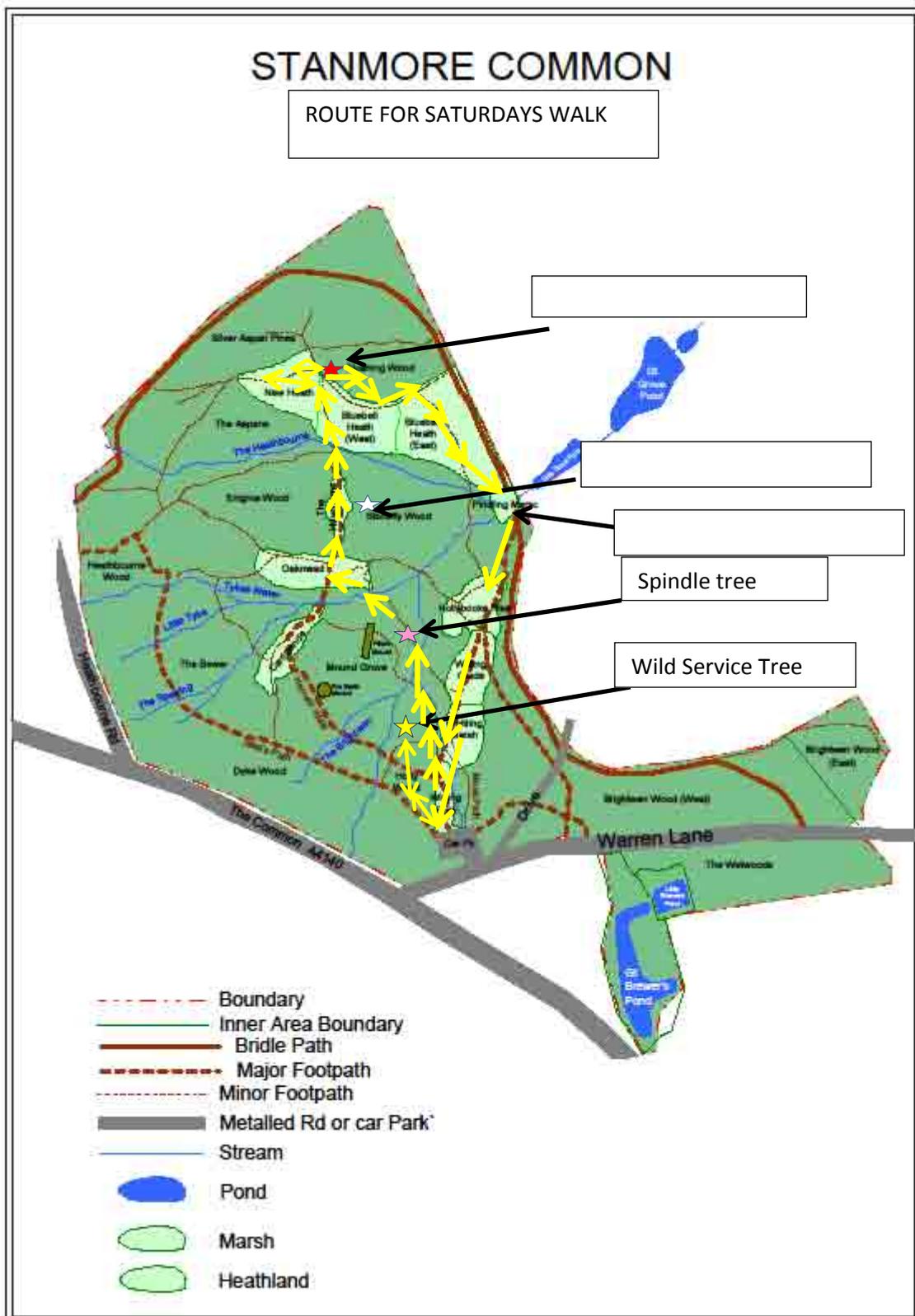
Wild Service Tree old

Wild Service trees are insect pollinated, with sprays of white flowers. Summer temperatures have to be high for the berries to form. These are highly astrigent, similar to Sloes. To make them edible, you let them rot, which sweetens them, a process called bletting.



They used to be used medicinally for Colic and its species scientific name means “good for colic”.

We found one of our planted Hazel trees as we went down the slope of the path



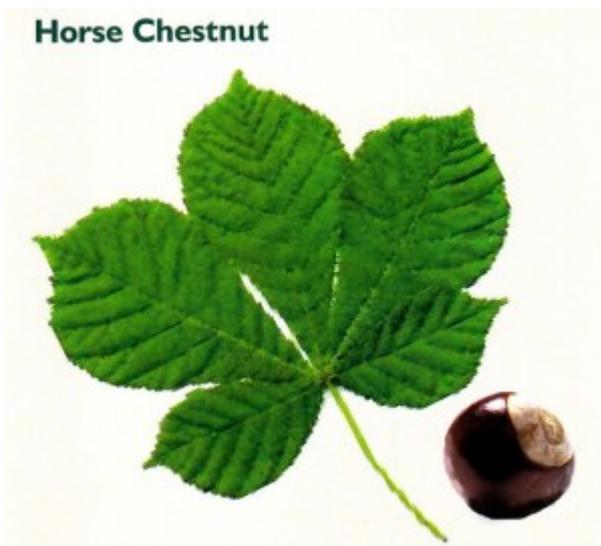
After looking at the Wild Service tree we went back on ourselves to get a clear route to our other rare tree.



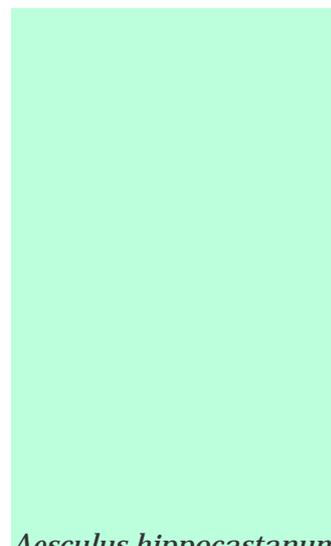
Looking at Sweet Chestnut leaves



Sweet Chestnut leaves(*Castanea sativa*).



Horse Chestnut



Aesculus hippocastanum

The 2 trees are not related. The Horse Chestnut is in the Oak family and the Sweet Chestnut is in the Beech tree family. UK sweet chestnuts are rarely big enough to be used for cooking.

We import Italian ones. Horse Chestnuts or conkers are poisonous to both horses and people. The strange thing is that Turkish people feed them to horses. Both species are not native to the UK and are southern European species. Both have been in the UK for centuries, the Horse Chestnut since the fifteenth century and the Sweet Chestnut since probably the Roman occupation of Britain. Horse Chestnuts are used in herbal medicine. The leaves and bark are made into teas and the nut is crushed and filtered for use in external creams. Biologically Horse Chestnut is a great nectar resource and its noted for its bark splitting and the formation of sap runs, a very specialised and important habitat.

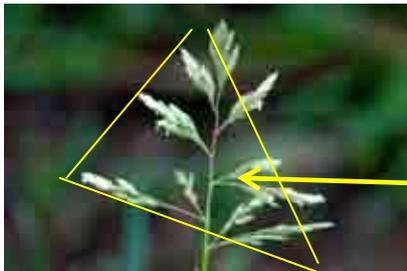


a sap run



the hoverfly *Brachyopa scutellaris*. Its larvae live in sap runs. (This species has been recorded from Stanmore Common.)

We ended back on the main ride called Witling Ride. Here we started to look at Grasses. Our first find was Annual Meadow Grass (*Poa annua*).



ANNUAL MEADOW GRASS



(*Poa annua*)

This small grass grows to only 30cm. It flowers almost all year, the only grass to do this.

note only 1-2 branches from each point along the flowering stem=diagnostic feature.

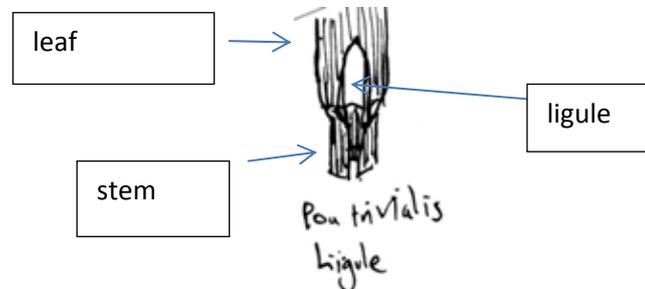
Note also the triangular shape of the flower arrangement. A group of flowers is called an inflorescence.

Also the young leaves have transverse wrinkles.

We quickly found a second meadow grass. note the blue arrow points to a spot on the flowering stem where



multiple flower branches emerge. I count 5 branches. Annual Meadow-grass has only 1-2. This cannot be the same species. The circle of branches around the stem is called a whorl. The point of the flowering stem where the branches emerge is called the node. There are a number of Meadow grasses. The vital clue lies in a filmy membrane which lies between the grass leaf and the main stem of the plant. This membrane is called the Ligule.



The membrane was long and sharply pointed. The only Meadow grass (*Poa*) species with such a ligule shape is Rough Meadow-grass (*Poa trivialis*). The shape of the inflorescence is roughly pyramidal/triangular but it is far larger than Annual Meadow –grass. Rough Meadow grass grows to 1m tall and so is a far larger plant.

We also found another grass from a separate genus. This was Creeping Soft Grass (*Holcus mollis*).

Below are 2 pictures of the inflorescence of Creeping Soft Grass. It looks very similar to a Meadow grass. However if you look closely at the individual groups of flowers they have projecting bristles. These are called awns. No meadow grass has awns.



However the real clue to this grass is the “Hairy knees” on the grass stem. These knees or nodes are swollen and hairy. Creeping Soft-grass (*Holcus mollis*) is quite grey-green and has a “soft” look. It likes damp acid soils. It sends out runners across the ground which put up new shoots. It is quite an invasive species.

We headed back into the woodland following the line of the Witling Beck. We had to cross the stream twice and Emmanuelle remembered the right route and we ended up in another clearing where the Spindle Tree was.

Spindle trees (*Euonymus europaeus*) is a native species of tree. It is not well known and belongs to an obscure plant family called the Staff Vines (Family Celastraceae of 130 worldwide species).

The name of the tree comes from the use of its wood which was traditionally used to make spindles for spinning wool. The wood is tough with a density similar to Elm but softer than Oak. It was used for knitting needles and it was used medically for laxatives and purgatives. It is an ancient woodland indicator species and is commonly found in old hedges.

The seeds are dispersed by birds and mammals despite all parts of the tree being poisonous especially the fruits. Studies show the toxins in the fruit reduce as the seed ripens. The seeds are nutritionally the best of all UK shrubs as they contain a very high level of fats. These are concentrated in the orange fleshy aril which the birds preferentially feed on. Robins (*Erithacus rubecula*) are the main avian feeder. One study showing the arils making up 14% of the winter diet of a Robin. Members of the Tit family too are after the arils of this fruit. Long tailed tits preferred arils of Spindle to the fruits of bramble or elder. They feed upside down on the capsule and strip off the aril leaving the seed in situ. Great Tits remove the whole seed and fly off and then peck off the aril and often then drop the seed. The seeds have thin walls and they do not last long in the seed bank. The estimate is up to 2 years. Spindle seeds need a period of dormancy before germination and germination is improved if the aril is removed. Studies show the seeds need 8-12 weeks of warm moist conditions followed by 8-16 weeks of cold moist conditions. The long periods of



dormancy mean often germination is in the second year.



CCCXVII



F. B. 362 *Euonymus Europeanus*. Spindle Tree

The Spindle had finished flowering and had gone into fruit. We then followed the path north-westwards and we ended up coming into our second largest clearing, Oakmead.

The large Oak tree is a native Pendunculate Oak. It's age estimate is uncertain but if it is one tree it could be 400 years old. This tree was in big trouble some years ago as the weight of one of its main boughs was splitting the tree apart. The council lopped off the bough and the tree healed the gash in its bole.

There are 2 native Oaks in the UK and Stanmore Common has both of them. By far the most common is the Pedunculate Oak (*Quercus robur*). Pendulate means stalked and the term in this case refers to the acorns. The other native Oak is the Sessile Oak (*Quercus petraea*). The acorn here has no stalk and sits directly attached to the twig hence the term sessile. There are only a handful of Sessile Oaks on Stanmore Common and they are all at the far western edge of the nature reserve and we did not go to that bit of the site.

Our other common Oak tree is the Turkey Oak (*Quercus cerris*). As the name suggests it is from South Eastern Europe. The tree is spread by birds and squirrels burying the acorns. This tree is recognisable by the deeply cut leaves and the stiff hairs or bracts around the leaf buds.



TURKEY OAK
(*Quercus cerris*)

hairs or bracts

lobes sharp often leaves very
deeply lobed (less not obvious in
this example)

We did see the sweet smelling grass used to strew on clothing and bedding, Sweet Vernal Grass. (*Anthoxanthum odoratum*).



We moved into the Hawthorns a wet grassland path with woodland both sides.

To the west is a huge Pedunculate Oak tree with a snapped off branch.

There were interesting grasses on route and we saw 2 more species.



Wood Millet (*Millium effusum*).is a grass of shady woodland and its drooping branches are quite characteristic .



Cocks-foot

Dactylis glomerata is a grass of rich soils in sunny situations.

To the east was a magnificent ancient Common Hawthorn tree (*Craetaegus monogyna*). We had done a lot of work to get this tree back into the light.



We came to our largest clearing. This is called Bluebell Heath. It has extensive restoration work done.

Once the area was much more open with far fewer trees. As grazing stopped the trees invaded and in the case of Bluebell Heath, the grassland was almost lost to invading trees. The grassland is of a special type. It is composed of layers of silts and gravels called Stanmore Pebble lying on top of clay. The pebble layer allows soil drainage and nutrients get washed out of the plants reach. The resultant soil is nutrient poor and acidic and only specialist plants such as Heather, Gorse and a restricted plant range like these types of soils which is called lowland acid grassland.

To keep acid grassland you have to control the trees and keep the nutrient level low. This means any grass cuttings must be removed from the site and you have to scrape off the fallen leaves.

If the grassland has degraded too far then the only cure is to rip off the topsoil. This has been done twice in Bluebell Heath.

Two lottery bids produced 2 projects. One in 2006 -2009 and the other 2012 to 2015.

The first one restored a burnt patch of woodland, and it is now classic lowland heath rather than acid grassland. This is due to the sowing of Heather seed from Hounslow Heath by Ghuderati children from the Sai School. This area called New Heath is full of interesting plants.

We saw the wiry cushions of Mat Grass (*Nardus stricta*), the grassy tussocks and grey –green spear like leaves of Purple Moor Grass(*Molina caerulea*), the tiny flowers of Bent Grasses (*Agrostis* species) and the large flowers of Heath Grass (*Danthonia decumbens*).



very long 1 sided lines of black flowers

thin needle like leaves

Mat Grass (*Nardus stricta*)



Tussocks and flower heads of Purple Moor Grass

(*Molina caerulea*)



The flower heads of Common Bent Grass (*Agrostis capillaris*).



THE very large Flowers of Heath Grass (*Danthonia decumbens*)

All these grasses are specialist species who like poor acidic soils. There was lots of Heather which will flower in August. We had to search for the rare fern Hard Fern (*Blechnum spicant*).

This species had not been recorded on the reserve for a century. The bulldozer must have exposed some old spores and now we have over a hundred plants.



Hard Fern (*Blechnum spicant*)

We saw a Buzzard slowly circling over the area.



Bluebell Heath is not all about grasses. We also saw the acid grassland rose Tormentil



4 petalled flower
diagnostic

leaves divided into 5
leaflets. Actually it is 3
leaflets and 2 accessory
organs called stipules.

In one spot were Heath Spotted Orchids just coming into flower. The picture below shows pure Heath Spotted Orchid. It is possible our orchids are hybrids between Common Spotted and Heath Spotted Orchids. We would like to get this checked. Our Orchids varied in shape and colour.

Amongst the Orchids grew Marsh Thistles (*Cirsium palustre*), Wood Sage (*Teucrium scorodonia*) Betony (*Betonica officinalis*), Wild Angelica (*Angelica sylvestris*), Slender St. John's Wort (*Hypericum pulchrum*) and Heath Bedstraw (*Galium saxatile*).

Heath Spotted orchid (*Dactylorhiza maculata*)





Marsh Thistle (*Cirsium palustre*)



Wood Sage (*Teucrium scorodonia*)

Betony (*Betonica officinalis*)

Wild Angelica (*Angelica sylvestris*)



Heath Bedstraw (*Galium saxatile*)

Clasping leaves of Slender St. John 's Wort (*Hypericum pulchrum*)

We went behind the newest restoration area to look at the Grass Snake hibernaculum. This was an old tree root plate now used every winter by Grass snakes (*Natrix natrix*).



Grass Snake (*Natrix natrix*)

The presence of the hibernaculum altered the bulldoze area and it meant very close supervision of the bulldozing work. Children from the Hatch End Masorti Synagogue stripped heather seed capsules from New Heath and then scattered it all over the new bulldoze scrape now called New Scrape. We hope New Scrape will resemble New Heath and it certainly looks like this is what is going to happen.

Up to 7 workers 1 girl and 6 blokes plus Timber the Dog were working with chainsaws throughout the winter of 2012/2013 felling small trees in Bluebell Heath and now the area is vastly more open.

Their chainsaws opened up around the ancient apple tree which has just finished flowering. We have buried branches to produce new trees.

We moved down into the lowest part of the reserve, a wetland delta called Pynding Mersc. This was the idea of the brilliant John Dobson, the ex-warden of the reserve who is still involved in the site. He pushed for a low dam to be emplaced to cause flooding back up the valley. His scheme has worked beautifully, producing a rich and diverse wetland with interesting plants such as Gypsywort, Floating Sweet- Grass and Narrow Leaved Water Plantain .



Gypsywort (*Lycopus europaeus*)



Floating Sweet-Grass (*Glyceria fluitans*)



Narrow-leaved Water
Plantain (*Alisma
gramineum*)

It was not all about plants Reece and Josh were spotting stuff. We did the Nursery Web Spider
Pisura mirabilis



This spider holds its eggs in a big silken ball to protect the babies.

We returned via Hollybrook Rise and we got back to the car park around 4pm.

A big thanks to all who came on the walk. It was brilliant and a lovely day. We are no the reserve every other Sunday and Wednesday throughout the year and information is available at the website www.harrowncof.org/.

The next guided walk is Saturday 20th June at 10.30am on spiders at the same meeting point.

REPORT FOR WORK PARTY SUNDAY 7TH JUNE 2015

ATTENDEES: Simon Braidman, Christine Hegarty, Oisín Hegarty, Seamus Hegarty, John Winter, Neville Day. Josh Kalms David Green.

Weather 18 degrees centigrade sunny , 9mph northerly

10.30am to 3.30pm

TASK Clearance of Bracken from eastern Bluebell Heath and botany survey.



Before we started



after we finished

The guys did a great job clearing the bracken. John and Neville checked everything was going fine.



I was doing the botany survey and John and Neville swopped over to help. We covered parcel 4 ,5 and 6 .

WILDLIFE



The Nursery web spider *Pisaura mirabilis*

We saw these female nursery web spiders patiently carrying around their egg sacs in their jaws. The male *Pisaura* brings her a silk wrapped gift as a present and whilst she is feeding on the present mating takes place. Also male spiders play dead when with the female. if she shows signs of aggression and tries to grab him he will play dead and collapse They let themselves be dragged along by holding onto the food item with one leg and this seems to pacify the female and he is much more likely to successfully mate. Playing dead is quite common in the animal world Snakes and Lizards, frogs. This playing dead is called thanotosis.



Male *Pisaura mirabilis*

©Stefen sollars

We also saw this wonderful beetle. This is the Black Headed Cardinal Beetle (*Pyrochroa coccinea*). Cardinal Beetles belong to the family *Pyrochroidae*.

There are only 3 UK species. All 3 are dead wood species. Their larvae live inside dead wood and hunt down other insects and their larvae under tree bark. This is not a common species. It is similar to another species *Schizotus pectinicornis*, but that species is smaller only 7-9mm long compared to the insect below which is 12-19mm long. Also the smaller species has a black spot on the pronotum.

pronotum



WAVY HAIR GRASS (Deschampsia flexuosa)



We did see some of the lovely Wavy Hair Grass. This grass is highly attractive forming dense tussocks. The leaves are hair like and the flowers are purple. It is a plant of poor quality acidic soils.

A big thanks to the Hegerty family and all the other volunteers.

Schizotus pectinicornis is extremely rare and is only found in Wales.

REPORT FOR WORK PARTY WEDNESDAY 10TH JUNE 2015

ATTENDEES: Chris New) Marios Brooks, Rory Normandale, John Bugler, John Winter, Neville Day Jonathon Freedman , Simon Braidman.

10.30am to 3.40pm weather sunny 18 degrees centigrade 15mph North east,.

TASK . The group was split into 3 sections:

Section 1 Bracken control, This was Marios, Rory, and John Winter

Section 2 Tree felling This was Chris and John Bugler

Section 3 botanical surveying Simon and Neville.

Section 1 worked in the eastern section of Bluebell Heath on the lower slopes clearing bracken using scythes and rakes.

Section 2 worked in Parcel 9 taking down a largish Turkey Oak (*Quercus cerris*). John was instructing Chris.

Section 3 worked in the western section of Bluebell Heath and on New Heath. Surveying was carried out on Parcel's 1,2 3 and we finished off Parcel 4 and counted the Orchids.

Everyone did a great job and we cleared a load of Bracken. Arisings went by wheelbarrow down to the bottom pile just south of Bluebell Heath.

The Turkey Oak was felled and the trunk left as dead wood habitat. The branches were removed and stacked on the arising pile to the east of Bluebell Heath. Thanks to John and Chris we have opened up the area further.

The botany survey was completed and all 3 parts were completed:

1. sketch of the parcel
2. Estimate of overhead % cover of each habitat
3. Estimate of % ground cover and rating of 28 key plant species.

Thanks to the surveyors especially John and Neville.

After lunch there was a need to clear the bracken on New Heath and we got Rory over to help Neville and myself when we had finished the survey. We quickly ripped through the bracken stands in Parcel 2 and parts of Parcel 1. There is an arisings pile to the north of New Heath which we will use for Bracken.

ORCHID COUNT

We counted only 11 Heath spotted Orchids. This is a significant decline from last year of 69 flower spikes. The ground was quite dry it had been a very cool spring and the area is becoming more enclosed. There is a need for an orchid expert to give an opinion and a need to clear the tree line back to the west and to clear the willows to the south.

The DAFOR survey results have not been examined in detail but it seems not to be sensitive in terms of the suite of plants. I feel something else is required. So I am going to try another for of surveying.

WILDLIFE

This bug was seen.

This bug is called *Dryophilocoris flavoquadrimaculatus*

This is a member of the group of bugs called the Mirids.

Family Miridae. It is a common species on Oak.



There was a lot of Greater Bird's Foot –Trefoil in Parcel 4.



© Graham calow

Greater Bird's Foot-Trefoil
(Lotus pendunculatus)

This is a very attractive member of the Pea family. It looks very similar to Common Bird's Foot –Trefoil (*Lotus corniculatus*). The best way to distinguish the species is to snap the stem. The Greater Bird's Foot Trefoil has a hollow stem. However this is not always the case. Other ways to separate the 2 species ;

- Greater birds Foot Trefoil
- Flowers June to August
- Found in damp soils
- Grows to 50cm in height
- Stem is usually hollow
- Less than 7 flowers in a flower head

- Common Bird's Foot Trefoil
- Flowers June to September
- Tolerates dry conditions
- Grows to 40cm in height
- Stem always solid
- More than 7 flowers in a flower head

Calyx teeth reflexed in bud



calyx teeth

Calyx teeth erect in bud



calyx teeth

REPORT FOR WORK PARTY SUNDAY 14TH JUNE 2015

ATTENDEES: Simon Braidman, James Hutchinson (new), Josh Kalms, David Green and the 23rd Wembley Scouts.

10.30 am to 3.35pm

Weather light rain then dry briefly sunny then cloudy 14 degrees centigrade 9mph northerly.

TASK

To control bracken in Bluebell Heath.

At the start there was just James , myself and the 23rd Wembley Scouts. The scouts were quite young and so instead of using scythes we just hand snapped the Bracken stems. All the children wore gloves.

We worked in Parcel 10 and 9 at the eastern end of Bluebell Heath.

The 23rd Wembley scouts did a great job. The arisings were added to the log pile which lies east of the Horse Ride at the north east corner of Bluebell Heath. The pile location is convenient but not ideal as some nutrients could run into the top of the clearing.

After an hour the scout group moved into the woodland down Jake's Path do do some games. James and myself carried on in the same area until James ran out of time as he was working that afternoon.

I had lunch and was just starting to work when Josh and David arrived. We continued to clear Bracken in the same area using scythes and raking off the arisings and adding them to the same pile.

We ran out of time with a bit if raking still to do.

A good job was done.

Wildlife

The children spotted "spit" of the Cuckoo Spit bug.



Spit of the Bug



The occupant looks very happy



The adult insect in this case *Phileanus spumarius*

More than 1 species produces spit. All are Froghoppers of the Family Aphrophoridae. There are 9 UK species. Four of these are relatively common and widespread.

No one is quite sure of the function of the spit. It may help to keep the nymph moist or protect it from predators

There may also be air saturation function. The insect uses its sucking mouthparts and sucks out plant sap. Then after a time a viscous clear liquid is exuded from the anus and flows along the bottom of the insect and the part of the plant it is clinging to.

The Froghopper then having surrounded itself with this clear viscous fluid pushes its hind end out the liquid and turns it upwards. The posterior segment opens and like a pair of claspers grabs air and then the tail turns downwards into the liquid and the air escapes and is trapped as a bubble. This is done 20-30 times in under a minute. The tail is waved right and left to ensure equal air and hence bubble distribution. After this an egg is laid into the froth.

We also saw lots of female wolf spiders with egg sacs .



They carry the silk wrapped eggs attached to the spinnerets which extrude the silk from the body. Spiders produce different types of silk for different jobs.

On the way back to the car whilst crossing Hollybrook Rise we saw a Red Kite and a Buzzard. The Buzzard was over to the south and the Kite to the west.



Red Kite



Buzzard

Note the Buzzards wings are broader and the tail is not forked. In flight the Kite has deeper more elastic wing beats.

ABIG THANKS TO EVERYONE THAT TOOK PART. BRILLIANT NOW WE HAVE CLEARED EASTERN BLUEBELL HEATH.