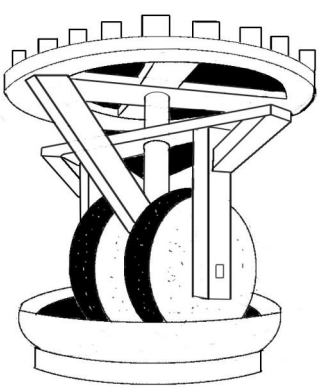
Summer 2022

TOUCHPAPER

The Newsletter of the Royal Gunpowder Mills Friends Association
Registered Charity No. 1115237



Summer 2022

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Deadline for the next issue is 26th August 2022

Chairman's Chat

We are now open on Sundays until the end of October and still need more volunteer guides, especially for the Rocket Vault where recent visitors have included someone who installed Rapiers on the Falklands and someone else who has a Petrel sounding rocket at home!

Recent famous names on site for filming and photoshoots include Olivia Colman and Harry Styles, who was photographed on site for his latest album "Harry's House", due for release on 20th May. Our picnic tables have been delivered and are now in use outside the café. We are now looking at purchasing extra equipment for the children's play area.

We wish all our Friends a safe and happy summer.

Don't forget our AGM and Reunion on Friday 17th June.

Len Stuart

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Editorial

We are continuing to use our new printers who are giving a very good quality print at a very reasonable price.

The Spring issue email edition included links to email addresses and online photos. I experimented with links from the article headings on the cover to the page where the article started. This is not completely successful but does work correctly if the issue is opened in a PDF reader (I use Adobe Acrobat DC) using single page view; when using scrolling mode, for reasons I do not understand, the links jump to the page after the intended one!

Hopefully those who have the email version will find these links useful. I have commented that the link to my email address would make it easier to comment on the content; sadly we have not yet had anyone adding to the list of names in the P1 group photo.

Remember if you pay for a paper copy you may have in addition the email version at no extra cost. The email version does allow one to see some of the photos in glorious colour and expand these for more detail.

All issues of Touchpaper from 1991 up to 2019 are now available online at this link:

https://www.wargm.org/archive_viewer/wati-index.php

Once more my thanks to those who have contributed to this issue, it would not happen without them.

Thoe of you who have not yet renewed will find a renewal form attached / enclosed. This will be your final reminder.

Finally I hope this will reach you before the AGM/reunion on 17th June.

Brian Clements

Gunpowder Mills

When I was courting Pamela (what an old fashioned word "courting" is) I used to take her into old Churches. I certainly knew how to show a girl a good time. Visiting churches was a habit that I never grew out of. So it was that, when we moved to Kent, we went into the Old Church in Dartford. A volunteer guide showed us around. Amongst the things that he pointed out was a memorial to Sir John Spilman. His coat of arms, on a memorial in the church, has a representation of a jester on it. Sir John devised a method of making paper from old rags. He water marked his paper with a jester's hat (or Fool's Cap!). It has been suggested that the term "foolscap" comes from this. The guide told me that the paper mills were later (it happened in 1732) converted to make Gunpowder. Because Paper Mills needed water power this facilitated the change of use to Gunpowder manufacture.

The Gunpowder factory at Waltham dates from much earlier than 1787 when the Government took over an existing factory. This is borne out by death records in the Waltham church confirm that there was a fatal accident at the Gunpowder factory there in the mid 1600's. It is believed that the Waltham mills were converted in the 1500's from fulling mills; these are used for cleaning wool after sheering sheep. One claim in reference 1 is "that by 1810 Dartford had the most extensive powder magazines on England". It may be that Gunpowder from Waltham was moved by barge rather than much storage taking place at Waltham.

A recent search of Google Maps and Street Maps revealed at least six Powdermill (or Powder Mill) Lanes. I suspect that they all relate to long since closed mills. Of course, all readers of Touchpaper know that there is only one REAL Powdermill Lane. When looking on a local map, sometime after my tour of the Dartford church, I was surprised to find one in Dartford. I remembered the guide's story, and I checked it out.

If you want to know what the workings of a Powder Mill looked like, take a look at the front cover of this copy of "Touchpaper". The Mills at Dartford are arranged in pairs either side of a water wheel. This appears to be the norm. Fig X shows the plan of the site and Fig Y shows the operating mechanism (this is mainly made of wood), the grindstones and the water wheel. The vertical round stones are the edge runner stones and they rotate round on a bed stone with the powder in between.
Edge runner mills are said to give a more finely ground product. The pictures opposite show how the Dartford Mills look today. They show the bed stones (or the bases for them) in situ and some scattered, broken edge runner stones; sadly, that is all that is left. When I first visited the site, some thirty years ago, there were more mill stones, but some of the better (mainly the complete ones) were removed many years ago.

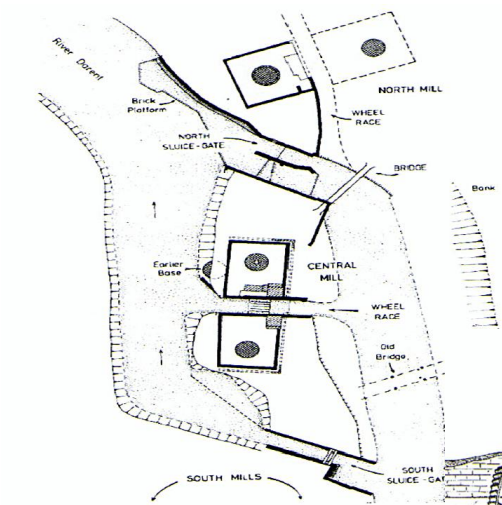

Fig. X

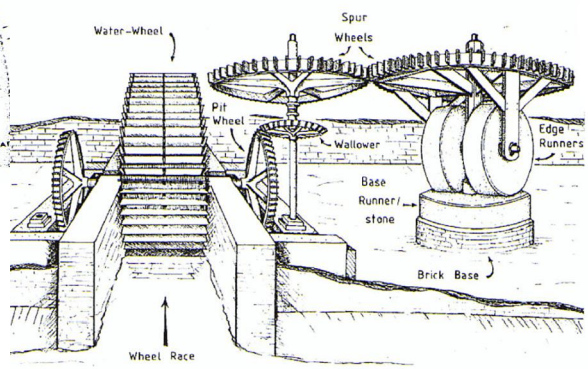

Fig. Y

Gunpowder Mills were, I believe, the first explosives processing facilities to be regulated to limit the quantity of powder permitted and this was enshrined in Law[3]. The reason for this was to prevent sympathetic explosions, where one Mill exploding (a frequent event) set off another. I had always believed that this quantity became smaller over time and with accident experience. This appears to be contradicted by Ref 3: as the 40lb limit of the 1772 Act was increased sometime prior to 1860 to 50lb.

It puzzled me that the following requirement was enshrined in the 1875 Act; a distance of 2 miles was required between any explosives facility and "Her Majesty, her Heirs or Successors". I have discovered that this has actually come from the 1772 Act. Perhaps as a result of memories of the Gunpowder plot?

Powder Mills were generally of light weight wooden construction. This was so that if the Mill did explode, it did not produce too much lethal debris. Also, they could easily be rebuilt. The idea of fixed distances is further mentioned in all the documents in Ref 3. These are the beginnings of the distances which later became the basis for the introduction of the tables of Quantity Distances, which are now used for the separation of all types of explosives facilities. Again, these distances are to prevent sympathetic explosion and to minimise damage to any surrounding buildings and injury to people. They were refined by a Miss E B Philip (actually a PhD) during WWII by studying the effect of German bombing on UK houses. After further refinement they are have now been adopted by NATO and even by the UN.

I once visited the Faversham Mill. Faversham[2] was the great competitor to the Waltham Mills. On line information claims that it was the first Gunpowder Mill in England. The Gunpowder Mill there is the last one that exists in the UK and maybe in the world. It was in the Mill owner's garden, hence when the rest of the mills were demolished the owner decided to keep it. The Mills here, as in Dartford, were arranged in pairs either side of a single water wheel.

I was fascinated to see a wooden tray to exactly the same design as those that we used at Waltham to dry solvent cordite. I had seen them in use throughout the ROF organisation and now I know that their origins go back a very long time. The later buildings (for high explosives) at the Faversham factory are still on the Marshes where they were abandoned. Near to where I live now there are the remains of the buildings of a disused cordite factory on the Thames marshes at Cliffe. It was originally the Curtis and Harvey Explosives Works and became a Cordite Factory in the First World War. I have it in mind to visit it one day, but it has no official public access, so I may have to climb some fences. Pamela will enjoy that. But it will make a change from churches.

For those interested in more information:

1 Google "Dartford Gunpowder Mills" and web sites https://www.dartfordarchive.org.uk/early_modern/industry_gp.shtml also https://www.hugofox.com/community/wilmington-parish-council-13275/wilmingtons-gunpowder-mills#
(The Mills are on the borders of Wilmington)

Both give interesting information regarding the history, operation and accidents!

2 Google "Faversham" or "Chart"

3 The 1875 Act gives 50 lb for Government powders but 60lb was allowed for other inferior powders. However, there were earlier requirements; the first legislation that I found was the Gunpowder Act of 1772 which gives 40lb. Victoriae Reginae No. 23 & 24 P385 dated 1860 (which transfers UK legislation into New Zealand Law) is the first reference I found to 50lb.

Peter Stone

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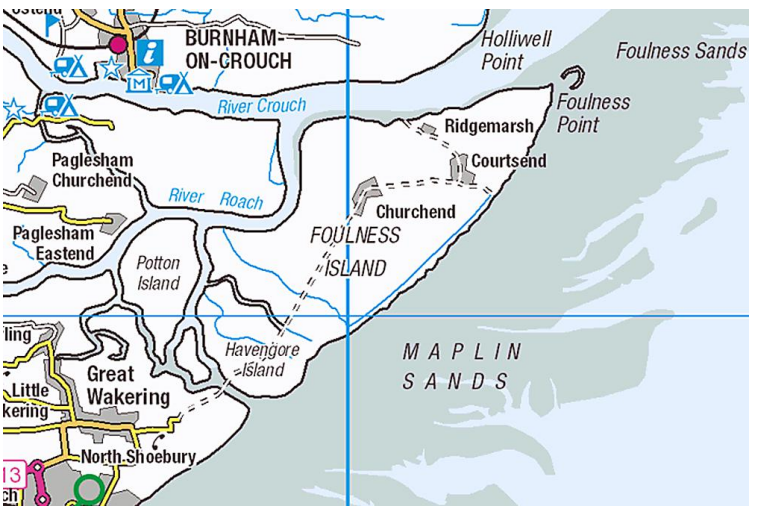
Our Sister Site at Foulness

Back in the 1970s there were strong links between the Explosives Research and Development Establishment (ERDE) and the Ministry of Defence (MOD) at Foulness. So what and where is Foulness and what is special about it? One of its unique features is that it is the ultimate "gated community" as not only do the MOD facilities lie within a perimeter fence guarded by police, but so also does a whole community living on Foulness Island. Foulness is the largest of the Essex Islands and the fourth largest island off the coast of England. It lies to the East of Shoeburyness by the Maplin Sands.



While MOD activities at Foulness do not date back as far as ERDE, it still has an interesting history. To understand this one needs to look back at the creation of the Shoeburyness gunnery ranges. In June 1849 the first lands were purchased by the Board of Ordnance on the Ness at South Shoebury, with a view to setting up an artillery testing and practice range. Until then, Plumstead Common and Woolwich Common had been used, but these were no longer viable due to the increasing power and range of the weapons.

Initially, the gunnery range was only used in the summer, but its use grew significantly during the Crimean War and from 1854 it was established as a permanent station.

At the beginning of the First World War Foulness Island was purchased, expanding to 30,000 acres the area of land owned by the government for gunnery ranges. The island was home to various farms, a church, several pubs and a couple of hundred residents, all of whom required government passes to get on and off the island. Public rights of way exist, but the island is now run by the defence contractor QinetiQ as “MoD Shoeburyness” with access to the island by non-residents subject to stringent times and restrictions. The access to the site is through various controlled gates; the normal way is through the Landwick Gate on the road from Great Wakering to Foulness.

This entrance is controlled by MOD Police, with a pass office at the gate and a barrier across the road to stop those without the necessary pass. Foot access is not allowed. This picture on the left shows the approach to Foulness Island with the police pass office just to the left of the roundabout..

Once you had a MOD pass, you started the long journey – about five miles - to Foulness Island as shown in the right hand photo..

The first main feature that you encounter is the Havengore Bridge. This was reconstructed in the late 1980's. It is a lifting bridge that allows the passage of yachts through at certain, and very limited, times. The "new" bridge is shown in the two photos below.

Prior to the construction of this new bridge, access to Foulness Island was via a WW1 Bridge which carried both road and rail traffic over the same bridge. This is shown in the two photos below.

In the 1970's it was still possible to be confronted by a train when you went across this bridge.

The next port of call was the Foulness Division of the Atomic Weapons Establishment. This was once a highly classified site and a separate pass was required to get into it. The site is now closed and looking rather dilapidated.

Along the road is an entrance to a gunnery range – Rugwood Battery. Shortly after that the road approaches a settlement comprising two villages. In the 2001 census, the resident population of the civil parish was 212, living in the settlements of Churchend and Courtsend, at the north end of the island. The population reduced to 151 at the 2011 Census.

In years gone by we would by now be getting to the interesting part of Foulness Island; the first pub.

Sadly the George and Dragon in Churchend closed in 2007, while the church of St Mary the Virgin nearby closed in May 2010. There were other pubs on the island; one being the Kings Head which was situated at Courtsend. This pub closed in the 1990s and is now a private house.

As well as pubs and a church, there used to be some interesting relics on the Island. There was, for instance, a TSR2 (Tactical Strike and Reconnaissance Mach 2); a project cancelled by Harold Wilson in 1965, sitting there waiting to be scrapped.

Although the population of Churchend and Courtsend has diminished over recent years there is still a small and relatively thriving community there, and houses command fairly high prices. The picture below left shows a heritage centre/museum based in the former school, details of which can be found by entering "Foulness Heritage Centre" into Google. This gives the rather limited times when it is possible for the general public to visit it.

I said at the beginning of this article that in the 1970s there were strong links between ERDE and the MOD on Foulness Island. This involved lots of trials down there; generally great fun too. Folks from the Explosives Branch at ERDE made frequent trips down there and made a lot of friends. Jim Burgess has serialised several chapters of his book "Episodes in the Life of a Government Scientist" in various issues of Touchpaper, and the Autumn 2018 issue of Touchpaper describes one such trial "Fun with a Fuel Fire" and its consequences. I will leave readers to guess who the miscreants were in this incident. His book covers several others.

Finally a footnote; the security-conscious among you may wonder where I got all these photos bearing in mind that photography on MOD sites used to be strictly prohibited. None of these are ones that I have taken; they are all readily accessible on the internet. Such is the march of time!

Geoff Hooper

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South Site Tower

There used to be a tower near to N557/N558. It is probably the round building shown on the map to the North West of N557*. It was in fact octagonal. Eric Baker once told me that Sir Stafford Cripps, a Labour MP with a very distinguished career, once had an office (a Laboratory I think Eric might have said) at the bottom of it, and that it was later known as the “Sir Stafford Cripps Tower”. Looking at Britannica.com (See Extract below) it seems to hint that this might be true. My guess is that it was the Water Tower for the first Cordite Factory built in the 1880s. We could ask Touchpaper readers perhaps? Dave Hewkin says it was dismantled when the South Site was closed and the remains now lie on the North Site gradually deteriorating.

On one memorable occasion the Fire Brigade decided to carry out a breathing apparatus drill in it, and left the still smouldering smoke generating pyrotechnic in the building. Since they had informed no one in the area, Peter Bourn was surprised to see grass burning and the flames moving in the direction of N548 where a large quantity of Nitroglycerine was stored. But to give them their due the Brigade did extinguish the fire rapidly.

*Some years ago I gave Dave Hewkin a bound report of the 1895 explosion (amongst other accidents). It probably has a plan in that may confirm this.

Sir Stafford Cripps was academically brilliant at Winchester and at University College, London, where he studied chemistry, he was called to the bar in 1913. Being unfit for service in World War I, he worked in a government factory and suffered a breakdown in health (1917–19). After the war he returned to the bar and was made a King’s Counsel in 1927. In 1930 he was knighted and appointed solicitor general, being elected Labour member of Parliament for Bristol East in 1931, but he refused to serve in the National Government formed in that year.

On the extreme left of the Labour Party, he helped found the Socialist League in 1932. In 1936 he advocated a united front with the Communists, which widened in 1938 as an anti-Fascist popular front, resulting in his expulsion from the Labour Party.

Peter Stone

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A Walk in the Wilderness

Time moves on. The steadily increasing time distance means that some early volunteers, post closure but not ex Establishment staff, have their own 'I can remember' stories of people and events from early volunteering experience.

Joining the Friends and volunteering in 2000, I was fortunate to make the acquaintance of the late Dennis Ashby, Mills gardener extraordinaire, stalwart of the Suffolk Horse Society and ex resident GPO engineer on the site, and discover from our conversations whilst labouring together on our volunteer task – cable stripping, that we had a mutual interest in canal restoration and history and could swap stories from 1950's national service in that strange beast, the Brutish Army.

With a keen interest in industrial archaeology, Dennis' GPO duties before retirement had given him unrivalled knowledge of the whole site and as a welcome respite from volunteer cable stripping I was invited for a tour.

So one sunny morning (the sun always shone in those days) we set off up the Long Walk and its extension on what I fondly imagined would be a gentle perambulation listening to Dennis' pearls.

I began to get a sense of unease when Dennis, who had been covering the ground at an extremely brisk pace, suddenly veered off and plunged into the wilderness to show me the last resting place of a decayed powder boat.

All photos by Les Tucker.

Very interesting, but what I hadn't realised was that Dennis wasn't one to let the finer nuances of Health and Safety stand in the way of the acquisition of industrial history knowledge and the rest of the morning was spent in roaming the wilderness with attack on vegetation, deep ditches etc. necessary to get to objects and buildings of interest, with Dennis giving a running commentary. It is probably fair to say our appreciation of the finer points of Health and Safety was less than perfect and thought as to communication with HQ in the event of an incident like falling down one of the many dangerous 'holes in the ground' was absent.

Maybe there is a 20 year amnesty for early wilderness rule infringers.

The wilderness with its mysterious deserted earth surrounded round house buildings, dense vegetation, decaying guttering on trestles, strange mounds penetrated by tunnels etc. was a place of deep fascination to an IA enthusiast. So in the space of a morning I had the invaluable experience of a complete coverage of a unique hidden industrial site guided by an expert who was able to explain the whole process and in addition could embellish with fascinating detail such as how to 'read' the carvings on a telegraph pole at the In Out canal lock and what was a piece of non ferrous barbed wire doing on top of Mills telegraph poles.

A good example of how detailed knowledge can transform an apparently innocuous feature - the line of concrete posts to the right with brackets carrying a service pipe stood in the direct path of the blast from the 1940's explosion and it is remarkable that although the service pipe disappeared the posts remained standing, with brackets bent by the blast.

We eventually emerged back on to the Long Walk, me dishevelled and exhausted, Dennis bright as when he went in. One of the most fruitful IA tours I have had and already an historical memory. (1)

(1) The wilderness is now strictly off limits and an ad hoc exploration by volunteers would now be unthinkable. But fantasising now, what an attraction it might be to DoE people and if they could have on their record a wilderness tour with a record written by them, led by an 'explorer' like those in the currently popular TV wilderness programmes and what about wilderness tours for agile IA enthusiasts ?

Les Tucker

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Jim Burgess Chapter 5:
An Incident with Explosives Trials

A major task for the Explosives Branch at Waltham Abbey was the development of new explosives effective for use in underwater weapons, in particular, torpedoes.

As rocket propellants formed the principal energetic material business of the Establishment, the types of explosive compositions being studied were often derived from propellants and propellant technology. In some cases, it might be said that the difference between propellants and secondary explosives is that an igniter is used to initiate the former whilst a detonator is used to set off the latter.

As a Research Establishment, progress with a ‘new’ explosive was limited to demonstrating its stability, chemical and physical compatibility with the materials with which it’s likely to come into contact, its sensitiveness and hazard, life expectancy, the effect of prolonged hot and cold storage and its performance on a fairly small scale.

One of the principal tasks of my Section at the time was the development of a novel, more powerful explosive for underwater use in a new, light-weight torpedo. When I took over the Section, a lot of work had already been done, under the capable hands and guidance of my predecessor and my main challenge was to select a candidate explosive composition and to try and persuade the Navy to provide the support necessary to take it from a ‘pilot’ scale to ‘manufacturing’ scale. The medium scale performance figures were very encouraging but it is, perhaps, rather like trying to get a book published, one really needs some publicity (in the right quarters) and some influential sponsorship to take matters further.

In those days, the Authority for approving the acceptance of new explosives (and other armament components) into Service was the Ordnance Board (OB) and that organisation had the funding (usually from a Project) and the authority to arrange the conduct of essential trials. As an aside, the OB has had a long and distinguished history although it's changed its name and structure in recent years. The first record of the OB stems from 1415 when Henry V was keen to ensure that his canons would perform reliably before the engagement at Agincourt!

Each of the three Services was represented in the OB. The Naval representative at the time was a certain Captain. I'll never forget the fellow. He was keenly imaginative and had a 'devil-may-care', buccaneer attitude (the Nelson touch!) that was very refreshing. We invited him to Waltham Abbey and, with support from the Explosives Superintendent, gave him an enthusiastic but absolutely honest 'sales pitch'. The Captain was convinced. We explained that we hadn't sufficient funds in the Research Budget to take things beyond the pilot scale or to conduct any tests or trials beyond those we'd already carried out on a comparatively small scale.

The Captain offered to arrange for us to 'hitch a ride' on a forthcoming series of OB trials. This was very generous because it involved us in minimal costs. The trials would include tests vital to the acceptance of a new explosive material into Service. These included accelerated ageing (hot storage and temperature cycling), behaviour in a fuel fire and attack by an anti-tank missile. To carry out such trials, we needed to fill our candidate explosive into genuine torpedo warhead cases. The Captain arranged for us to receive some cases (as it turned out, they were rejects and we had to fill welding faults with a suitable mastic material but 'beggars can't be choosers'!). We were supplied with six cases, each with a capacity to take 35kg of our explosive. It was quite a challenge to fill them as we were limited to two 12kg mixers and, as the explosive was held together with a 'curable' rubbery binder, mixing and filling times were important factors to be considered if the explosive wasn't to 'set' before the cases had been properly filled. Nevertheless, we did it!

In planning trials, it's desirable that there are no filled warheads left over from the trials which might have been rendered 'unstable' or more difficult to handle as a result of being, for example, 'cooked up' or 'bounced about', so where possible it is arranged that concluding trials are chosen to ensure a 'controlled' final destruction of the warheads.

To cut a long story short, one of the warheads, towards the end of the trials programme was to be subject to attack from an anti-tank weapon. This experiment was to be carried out at the Shoeburyness Range, (Rugwood Battery). As 'Scientist in Charge', I was invited to be present as both a witness and a participant. The facility was run by the Army and, consequently, everything was efficient and regimented. The Observation Post (OP) from which the test could be witnessed was a substantial two-story building and the upper storey was provided with a reinforced window through which proceedings could be viewed.

When I arrived at the Rugwood Battery, the warhead had been mounted horizontally on a wooden trestle. The Major instructed the Bombardier to 'mark the target'. The Bombardier marched, quick-step, to the warhead and, armed with a piece of chalk, he described a near-perfect circle on the side of the warhead (I have heard it said that to draw a perfect circle by hand is a sign of genius.....!). I was then invited by the Major to inspect the target. On the face of it, there didn't seem to be a lot of point in doing this but it was all part of the military procedure and seen as part of my participation and approval of the proceedings. It would have been churlish if not rude to have declined. As I walked towards the target, the chalk circle seemed to get bigger (!) .....but there was nothing I saw upon which I could comment beyond gesture a positive 'OK'! On my return walk to the Observation Post, I stepped out the distance. The warhead seemed rather close especially bearing in mind that the energy of the explosive was nominally well over that of TNT and that most explosives respond 'robustly' to being fired at with an anti-tank weapon!

However, I declined to voice such thoughts to the military who, I thought, would simply class me as another wussy boffin.

Just as the countdown to firing was about to start, the procedure was halted. “We have a visitor”, announced the Major, with no good grace. Being escorted up the steps to the first floor of the OP was a plump and ageing Naval Commander with a rather vapid Wren on his arm — ‘sugar-daddy’ came to mind!
“You‘re going to see what these boffins do .....” the Commander drawled rather unnecessarily to the young lady. By this time, the countdown had started. The ageing Commander looked at me with unmitigated distain as I crouched down, making sure that I had minimum body-contact with the structure of the OP. “I was under fire at Suez ...” the Commander boasted, just before I rammed my fingers in my ears. I didn't say a word! The Warhead detonated ‘full order’ and met all my expectations. The ground shock lifted me off my feet and the blast was almost tangible. The Commander looked ashen and his female companion was shaking violently - it almost seemed as if her eyes were going ‘round and round’....! “I bet you didn't encounter anything like that at Suez”, I addressed to the Commander as I went to inspect the 15' crater...!

Jim Burgess

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Obituary

Wendy Day (1945 -2022)

Wendy sadly passed away in hospital, following an operation and a short illness, at the age of 76. Our condolences go to Peter, Michelle and family.

Former ERDE/PERME/RARDE colleagues may remember Wendy from her time in the Computer Section, H10, and from the Social Club.

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Julie's Nature Column

The Royal Gunpowder Mills is such an amazing place for wildlife. All year round it offers a variety of habitats which attracts so many different species of bird. One of my favourites is the Kingfisher which has had plenty of mentions in the past, but many birds don't get much of a mention like the Spotted Fly Catcher, Tawny owl, Cuckoo, Black Cap, Reed Warbler and so on. I can't include all of them as it would become a bird column and not a nature column and the birds certainly seem to outnumber the rest of the wildlife.

Over the last couple of years I may have mentioned the Kestrel, having seen it regularly but not located where it could be nesting. This time I have found where it is nesting, in the hollow of a tree on Queens Mead. I have seen a pair of them regularly arriving and calling to each other. It's been a bit difficult to get photos due to the amount of leaves on the trees. Kestrels do not build their own nests, but will use previously owned nests of crows etc. They also like ledges and nesting boxes, perhaps in the future we can provide a nest box. Kestrels don't hold a large territory; so long as food is abundant they are happy to have neighbours. Their diet consists of small mammals, birds, worms and insects. Here's a photo of one, a big long distance, but close by to its nest.

The deer have cast their antlers now and look rather smart with their spring coat. They are all putting lots of weight on from grazing the fresh grass which is packed with sugars. I can see where they have also eaten the tops off the stinging nettles. I wonder if it aids digestion! I often find antlers on the ground, but this time I actually found a pair a few feet apart. That's the first time I've found an actual pair from the same head!

The deer are very relaxed at the moment and have been enjoying the carrots that I bring in for them. Here's a photo of a deer with one antler. You can see why I rarely find a pair of antlers together as they don't normally fall off at the same time.

A few weeks ago I put a camera out to try and capture any Otters coming through, but unfortunately after 3 weeks I have no sightings, but I will continue to monitor the waterways. I have seen a grass snake in the water which is where they find a lot of their prey, mostly taking frogs, toads and small fish. They will also eat small mammals and birds, here's a photo from a few years ago.

Our resident swans hatched 9 cygnets this year. All of them seem to be doing well. I bought some swan/duck food and if I see the cygnets I get a couple of scoops and soak it in water to soften it for them. This year I have seen Egyptian Geese on a regular basis. These birds were kept as an ornamental species, but managed to escape into the wild and have successfully bred in England. They are very distinctive looking and so is their call...quite noisy. I was recently surprised one morning to find a pair of them with 7 goslings trying to find their way to the water. It's quite possible that they nested at the Mills and I have since learnt that they nest in trees which explains why I saw one fly out of a tree a while back. I gave them a helping hand to get down to the water as one of the goslings's got stuck on some bramble. As soon as they got into the water our male swan arrived looking very cross! He wouldn't let them pass for about an hour. Eventually they moved off and I haven't seen them since. Here are some of the cygnets the day that they hatched and mother goose with her 7 goslings.

I'll keep looking out for more wildlife and hopefully next time I can report on how our Barn owls are doing and whether they have any young this year.

Julie Matthews
Mills Nature Conservationist

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