



# Kew News



left to right: Oiling the waterwheel during the New Year Steam Up; the Easton and Amos engine in steam; our younger visitors enjoying music and story time

## Hello

### Liz Power, Museum Director

It feels like spring has started to arrive at the Museum, the gardens have started to turn green once again and there are tadpoles in the pond. However, despite the winter's chill we have welcomed more visitors than we ever could have hoped for.

Thanks to the Cultural Recovery Fund 3, we have been able to prepare updated leaflets about the Museum and becoming a member, trained up the new learning team, and done lots of planning about the future of volunteering and membership. Keep an eye out for new members events coming later in the year!

These projects take a lot of time and energy to deliver, but they make an enormous difference to the Museum, and mean that we are in a much better position to move into the rest of 2022, with all the challenges it will bring.

We look forward to welcoming you all to the Museum over the next few months, and as always thank you for your ongoing support; you help make everything possible.

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# Sustainable Steam

**George Houston, volunteer**

In October 2021, the Board of Trustees took the decision to target the Museum's carbon consumption and emissions to be net zero by 2050. Around this time an arrangement was reached with Worley (a major provider of professional project and asset services in the energy, chemicals and resources sectors, and whose main UK offices are situated near us on the Great West Road) to develop a project aimed at producing a master plan to achieve this target. To add additional expertise to the project, Worley have recruited Skelly & Couch, who are one of the country's major building environment and services engineering companies, to the project team.

The first signs of this project were seen on the Museum site when Worley, along with Cornish Lithium, sponsored the New Year Steam Up and installed a display in the Boulton and Watt Engine House introducing the companies. To start gathering background information they installed monitors recording the ambient environmental conditions, temperature and humidity, at various positions in the Museum over a three-week period including the New Year Steam Up. During the Steam Up, Museum volunteers also maintained a detailed log of the energy usage. Together with our historical records for energy usage, this information was then used to provide the Terms of Reference/Guidance Notes for a "hackathon" (OED definition - "an event at which a large number of people work together developing computer programs, usually over several days").



*Onsite Hackathon participants at Worley's London office.*

The hackathon was held at Worley's offices on February 25th 2022. Over 40 students and graduates took part, both in person in their London office and online from around the world. Their task was to explore the current and potential future energy usage at the Museum and produce suggestions for working towards achieving our objective of becoming carbon neutral. Our Director, Engagement Coordinator and two senior volunteers were also in attendance to provide background knowledge about the Museum, the Collection and our services plant.

Having divided the attendees into smaller groups, each of the groups took a topic from the hackathon Terms of Reference on which they would produce presentation at the end of the day. These topics included:

- the Museum's current carbon footprint.
- the operation of the engines and locomotive in steam.
- improving environmental conditions in the Museum.
- alternative fuel sources.
- the operation of the boiler and services plant.





*A hackathon team working with George Houston to explore elements of their topic further*



*A hackathon team working with Liz Power to explore elements of their topic further*

At the end of the day each of the groups presented their ideas to the reconvened main meeting. These covered an eclectic range of possibilities including:

- improved insulation of the plant and buildings.
- electricity and used cooking oil as primary heat sources.
- piezoelectric flooring to produce electricity.
- ground/water source heat pumps and solar panels.
- a turbine at the base of the Standpipe Tower using the head of water in the tower pipes.

We are now awaiting a report on the day, from Worley, which will contain all the proposals presented at the meeting and will be used as a base document in formulating our future strategy. Our next move will be to form a Sustainable Steam Steering Group to take this project forward initially as a feasibility study and ultimately as a project plan to achieve our objective of zero carbon by 2050.

**London Museum of Water & Steam**

See our unique collection of stationary engines in steam

—

Crafts and hands on activities

**Summer Steam Up**

Saturday 14 and Sunday 15 May

10am to 4pm

Visit [www.waterandsteam.org.uk](http://www.waterandsteam.org.uk) for more information

**KIDS GO FREE**

# Triple Expansion Engine Back in Steam!

**Richard Albanese, volunteer**

Our last steam up on March 19th and 20th, highlighted the popularity of working steam engines with our visitors, many of whom also enjoyed travelling on the vintage Routemaster bus between us and our friends at the Kempton Steam Museum.

The preceding weeks though saw a flurry of volunteer activity to complete maintenance and repairs to our Hathorn Davey Triple Expansion Engine built in 1910, which we had started some months beforehand and were outlined in the last edition of this newsletter. Even though we were up against the clock, we made it!

During the works we successfully scraped and scooped up bucketfuls of congealed oil and grease to the basement area walls and floor which were then degreased and pressure washed clean. We replaced and re-plumbed the basement drainage sump pump and completed installing well over half of the new Steam Hall rainwater roof down pipes which go into the basement drain culvert.



*Valve gear at the top of the Triple Expansion Engine.*

Engine air pump, condensate feed return pump and condenser assemblies were partially or fully opened for inspection and servicing. The condenser was hydraulically tested to show that, thankfully, we have no leaking cooling tubes within. The Bakers Patent steam oil separator and reclamation system which removes oil from the engine's exhaust has been brought back into use with its engine driven pump overhauled and new pipes fitted to bring waste oil up to ground floor level so that it can be monitored and disposed of more appropriately and easily via a temporary tank.

Original condensate and oil recovery tanks from the air pump discharge which had rotted through have been relocated as stored historic objects and replaced by new temporary tanks and pipework which are allowing us to gauge waste oil quantities before we design and fit a permanent system to deal with this issue.



*Detail of the Triple Expansion Engine*



New wiring, electric supplies and lights are also being installed in the basement to facilitate the above and to enhance the engine when running.

From ground level up the engine has also had a big clean. Baked on oil, rust and dirt have been scrubbed off and a never-ending list of steel, brass, iron and copper parts have been polished back to a high standard of gleam. Paintwork and varnished wood are receiving attention too as after 40 years some is peeling or worn away.

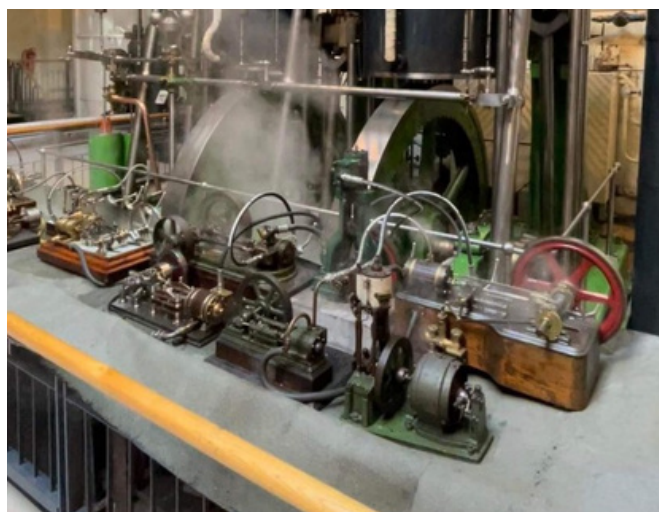
Attached to the steam cylinders, the automatic mechanically pumped steam and bearing oil lubricators have been dismantled and cleaned out, including the 34 glass tubes which allow the engine driver to see individual bubbles of oil flowing to the various working parts. The cylinder oil pump has been modified by replacing its original cast iron weight used to regulate the oil pressure. This was set to some 250 pounds per square inch to be in excess of the high steam pressure used when the engine was originally in service. At the Museum our steam pressure reaches a maximum of 38 pounds and this combined with the engine running off load means the pump was difficult to control and regulate, flooding the engine with expensive oil which was mostly being wasted.

Fitting a new smaller weight giving a pressure of 60 pounds has allowed us to cut back the quantity of oil used and control precisely where it's needed most. It's also stopped leakage to various pipe fittings and sight glass seals.

From the Thursday before Steam Up, we raised steam in our Lancashire Boiler allowing the big test to take place on Friday afternoon during which the engine ran well, with full vacuum in the condenser and new tanks and pipework working as intended. Apart from some minor adjustments, it performed beautifully all weekend, running like a Swiss watch, shimmering in a symphony of moving newly polished parts in the glorious sunshine coming through the skylights. On shut down on Sunday evening the steam pressure was barely 10 pounds per square inch and the engine had freed off significantly with valve gear running more quietly after two days of bedding in.

Many regular visitors and members said how much they enjoyed seeing the engine back in service again after several years, which was music to our ears!

By way of celebration, we also set up a Victorian working model engine display in front of the triple over the weekend, using steam via a small pipe connected to our boiler. Some ten models owned by museum volunteers whirred merrily away, much to the delight of our younger enthusiasts.



*Working model engine display in front of the Triple during the March Steam Up*

# STEAM Teens!

**Rhiannon Litterick, STEAM Teens Learning Producer**

STEAM Teens is a brand-new initiative aimed at engaging local young people aged 11-15 at the London Museum of Water & Steam. Facilitated by Rhiannon Litterick, Learning Producer, and supported by Emma Canterbury, Engagement Coordinator, the club aims to immerse teenagers in the world of science, technology, engineering and mathematics (STEM), through creative and fun activities.

## Why we're doing it

New for 2022, this initiative is currently in its very early stages. The aims of the project are to:

- Engage young people from the Museum's local community.
- Inspire a love of science through interesting, creative, and hands-on activities.
- Introduce young people to engineering and technology, and provide an opportunity to learn more about careers in STEM.
- Provide a free, welcoming extra-curricular club for an age group frequently overlooked by museums, to build strong links and foster a positive relationship for life.
- Encourage young people to make new friends, meet experts working in industry and grow in confidence through participating in an activity outside of school.



*STEAM Teens testing their Archimedes screws*

## Water, water everywhere!

The pilot session was held on Saturday 19th March 2022 in celebration of British Science Week. Nine participants, aged 11 - 15 from our local area worked collaboratively to design their own waterwheels and Archimedes Screws before going head-to-head to win a coveted Water & Steam goodie bag. The yellow team were victorious, successfully completing the challenge in record time!

## What young people want

The pilot session allowed us to find out what teens aged 11-15 from our local community would like to see the Museum offer for their age group. There was an opportunity for all participants to have their say and influence the programme we deliver in the future for young people. We learned that the participants:

- Enjoyed working as part of a team to make their own creations.
- Want to learn more facts about the Museum and its machines.
- Would like to come back to explore the Museum further through undertaking different creative activities.

## What's next?

We would love for STEAM Teens to become a regular feature in the Museum's calendar. Following feedback from the pilot participants and discussion with industry-based volunteers, future monthly sessions would include:

- Fun facts - exploring the Museum's collection and learning all about the machines.
- "Ask An Expert" - a chance to put questions to a real-life scientist, to uncover more about the topic being explored and learn all about the wide range of careers available in STEM.
- Trips - visiting different sites in London and beyond, such as Tower Bridge, the Brunel Museum and the Canal Museum.
- Awesome activities - more creative exploration of scientific topics.



STEAM Teens testing their waterwheel

## *Get involved*

If you would like to learn more about STEAM Teens, be the first to know when the club is launched, get involved as a volunteer or sponsor this initiative, we would love to hear from you! Please contact Emma on [emma.canterbury@waterandsteam.org.uk](mailto:emma.canterbury@waterandsteam.org.uk)

London Museum of Water & Steam

**Trains**

**Trains**

**Trains**

**May Half Term**  
**Saturday 28 May to**  
**Sunday 5 June**  
10am to 4pm  
Crafts • Storytelling  
Hands on activities

**KIDS GO FREE**

Visit [www.waterandsteam.org.uk](http://www.waterandsteam.org.uk) for more information



# Volunteering Update

**Sjoera Snijder-Sahuleka, Volunteer Coordinator**

I have been working hard finding my feet as the museum's Volunteer Coordinator. It has been, and still is, an enormous learning curve, but I very much enjoy getting to know the Museum and our volunteers.

On March 9th 2022, Emma and I attended the West London Volunteer Fair at Hogarth's House. We joined other West London museums including Hogarth's House, Strawberry Hill House, Marble Hill, Boston Manor, Fulham Palace and Historic Royal Palaces - Kew, to promote volunteering opportunities at our Museum. We met some lovely potential volunteers, and from our data capture cards we've had a response of 33% when I contacted them to arrange an informal interview.

I will also be supporting Tom Verran, our Steam Team Programme Coordinator. Steam Team provides employability skills workshops to young people in Hounslow. Focusing on CV and cover letter writing, career planning and development and interview techniques, the programme was developed to help address rising youth unemployment in Hounslow due to the ongoing effects of the COVID-19 pandemic.

If you have experience of working with young people or providing employability mentoring and would like to get involved, or know someone who would be interested, please register your interest on Timecounts: <https://timecounts.org/waterandsteam/forms/57633>.



*Sjoera at the West London Volunteering Fair*

In the coming months we are looking forward to taking part in the 'Inspire To Work' pilot project from Spark! charity. It will see us host a young person from Woodbridge Park Education Service one day a week for 8 or 9 weeks.

## VOLUNTEERS WANTED

- We are currently recruiting for
- Visitor Welcome Assistants (weekdays during the school holidays)
  - Learning and Community Assistants
  - Tour Guides
  - Site Maintenance Assistants
  - Steam Team Mentors

For more information please visit <https://waterandsteam.org.uk/support-us/volunteers/>



# *A very warm welcome*

A very warm welcome to our new volunteers.

- Peter Blackadder, Tour Guide
- Rob Casey, Tour Guide
- Sharon Compass, Gardening Team
- Chris Hullat, Site Maintenance and Tour Guide
- Oliver Knight, Visitor Welcome Assistant
- Amy Palmer, Collection and Archive Care Assistant
- Lalita Philbet, Visitor Welcome Assistant
- Lucy Ryan, Learning and Community Assistant
- Tim Revell, Stationary Engine Driver-trainee, and Tour Guide
- Helen Stubberfield, Visitor Welcome Assistant

## Update from the garden team

### **Margaret Porter, volunteer**

After the unprecedentedly long closure of the garden caused by the Covid crisis, I think many of us must have lost heart. The amount of new growth was astonishing. It was like a jungle was taking over the space, and it was depressing to contemplate getting it back in order. However, the amazing gardening volunteers took on the huge challenge and managed over the weeks and months to achieve a weekly miracle. Many areas are smarter than before!

Over the twenty plus years of the garden's existence and my experience of it, this restoration has been the toughest task yet. The continuity and varied skills of the garden team are very much appreciated, as too is their company.

A most helpful lunchtime meeting was held in the Museum café, attended by the gardening team. We were given the excellent news by the Museum Director that the Museum has received funding from Hounslow Council for the garden. There are exciting plans for a new wild play area at the end of the garden which promises to be very appealing for local families. The new funding will be immensely welcome, and excellently organised by Melissa. Among other things, a shed is planned, some new tools and a new section of fence, and perhaps more chairs for the lawn area. I look forward to seeing it all arrive.

Let us look forward to a very successful season and the plans to make the garden enjoyable for more people.

# A magical, natural play space

**Melissa Maynard, Freelance Project Manager**

With thanks to Hounslow Borough Council, the Museum is working towards creating a new area for our local community families and school groups. To bring this area to life we are putting in some practical aspects, such as new ROSPA standard fencing and gates, creating some new raised flower beds and improving storage with new lockable sheds.

There will be a lot of invitations to play included within this area, with a mud kitchen, fire pit and storytelling circle and balance beams, plus more.



*Consultation event for visitors to share their thoughts and ideas for the new wild play area.*

To help us make this area full of activities, we are also looking for some small bits and pieces to support families to play and explore. We've been chatting with our volunteer gardeners about any tools that they need to maintain the area. So, if you have any of the following, in good condition, then please do let us know or drop them into the Museum:

- Wicker or wooden baskets and trugs
- Kitchen supplies for the mud kitchen:
  - Pots, pans and bowls
  - Utensils (e.g. spoons, spatulas)
  - Pestle and mortar
- Picnic rugs/blankets
- Bug pots and children's binoculars
- Garden tools (in good condition):
  - Shears
  - Edging shears
  - Secateurs
  - Hand trowels and forks
  - Forks
  - Loppers
  - Pruning saw
  - Garden rake

## *Are you able to support continued development of the gardens?*

We'd like to provide picnic areas and places to sit and relax. Why not sponsor a bench?

- A picnic bench costs £200
- A bench seat costs £130

The gardeners would also like to have some new cordless mowers (electric not petrol)

- Makita Cordless strimmer - £240
- Makita Cordless Lawnmower - £450

Please email [museum@waterandsteam.org.uk](mailto:museum@waterandsteam.org.uk) if you would like to support the gardens.



# Looking forward to a Green spring and summer at the Museum

**Sally Malit, Speak Out in Hounslow Co-Director**

At Speak Out in Hounslow our mission is to support and empower adults with learning disabilities and/or autism to speak up, be heard, affect change, and have real life and social opportunities. We are fortunate to work in partnership with the London Museum of Water & Steam. Among the many benefits it provides us, it offers us opportunities to hold our activities outside in the warmer months.

Our volunteer garden group started in April 2015 and since then we have planted a sensory garden, maintained the pond and surrounding areas. It is important to us that we grow our plants from seed rather than buying pot grown plants that have been raised in industrial conditions using heating and lights and then transported. Most pot grown plants are grown in peat which stores a huge amount of carbon. We try to use peat free compost where possible and we use donated seeds, seeds we have collected from plants and seed swaps.

Any garden waste is composted, and this helps the health of the soil for growing food. As we also run a cooking group, we ask the group participants what they would like to cook before planting. The suggestions are always plant based as this can assist in the fight against climate change and are in keeping with most dietary requirements. The skills they learn help the participants to budget and eat low-cost nutritional meals.



*Speak Out in Hounslow members enjoying activities in the Museum's garden.*

Another activity that our members are keen to restart is the portable mini-golf course. It was designed, created, and built by them last summer using pulp board, reused bed slats and upcycled containers and cardboard. However, before we do, we are restarting our arts and crafts group that uses recycled materials and will be creating a welcoming environment for the local wild birds by making bird feeders and boxes that will be distributed throughout our community and will assist birds in creating homes where they can store food and take shelter in the winter months.

All of us at Speak Out in Hounslow are committed to ensuring that our activities reflect our aim to reduce our impact on the natural environment and support the London Museum of Water & Steam in becoming a more sustainable carbon neutral and green space for all to enjoy.

# *From the chair*

## **Clare Grist Taylor, co-chair of Museum trustees**

One of the key tasks for any trustee board is to agree and set the strategic direction for their organisations, and it's no different at the Museum.

As we emerge from the pandemic, this has been an auspicious time for trustees to review and refresh our vision, values and strategic aims. We're not out of the Covid woods yet, but it's been inspiring and energising to think about how we can build for the future. I'd like to spread a bit of that by sharing with you our latest thinking.

Strategy starts with a vision and ours is clear and unequivocal: to be loved by our community and visitors, volunteers and stakeholders. We think this perfectly encapsulates how we want our stakeholder to think about us – whoever they are.

Our vision is underpinned by our five core values. In everything we do, we want to be helpful; inclusive; engaging; fun and collaborative.

Then we arrive at our key strategic aims, which will underpin our business plan for the next five years. The aims come are organised under five key headings:

**Audiences:** we will develop our audiences, helping a wider range of people to enjoy our Museum and collection, engaging them through programming and interpretation for adults and families.

**Learning and collections:** we will engage a wider range people in our learning and community engagement programmes, using our collections and sharing our buildings and site as the starting point for all that we do.

**Site:** we will tell the story of the historic site, past, present and future, maintaining its role in the placemaking of Brentford and reinforcing its importance to the local community.

**Volunteers and members:** we will develop outstanding volunteer and membership programmes, helping all those involved to gain from their participation. We will aim to increase diversity within these programmes, making them more reflective of our communities.

**Sustainability:** we will create a sustainable future for our Museum to enable its long-term survival, better able to weather upcoming challenges, including financial risk, the climate emergency and the changing world.





*Clare Grist Taylor*

All of these aims align with the theme of this issue: how we work towards a sustainable future, preserving what we have and adapting as necessary to our evolving context.

This will be a challenge that will need all of our communities to pull together. Trustees stand ready to play their part, leading on a strategic framework that will enable and support everyone to work together towards a bright future for our much-loved Museum.

## In memory – Betty White (1930 – 2022)

Betty White, seen here at an early fire engine show alongside two Merryweather portable pumps in what is now part of the Splash Zone, was a long-term volunteer at the Museum. Kew News No. 7 for June 1978 records her start as a volunteer with other members of the White family. She was well known by and popular with visitors as well as the older generation of volunteers. Initially she was involved mainly in visitor facing operations, staffing the Museum front desk and shop, where she was a friendly and welcoming face. As time went by, she branched out into event management, working with Ron Plaster on the Model Show and subsequently the Meccano Show.



*Betty White alongside two Merryweather portable pumps*

Her accounts of these events in Kew News are fascinating both for the people and exhibits she describes but also for the visitor numbers we attracted. The weekend of the Models Show in October 1992 attracted “only” just over 1,000 visitors, 200 down on the previous year. Traction engines and steam rollers were present and Wendy, a Bagnall locomotive, was operating on our narrow-gauge railway. The following year visitors for the show were 35% up and were able to see ten traction engines and rollers outdoors and many working steam models inside. A rally on this scale in the cramped confines of the Museum is no easy task but Betty took it all very much in her stride. The Meccano shows she organised were soon attracting 1,000 visitors a day as well as publicity in national newspapers and on radio and television.

Sadly, because of ill-health, Betty was unable to continue as a volunteer and her death this year came after a long period of decline. She will be remembered affectionately by all those at the Museum who knew her, some of whom represented the Museum at her funeral.

# Upcoming Events



## STEAM UP WEEKENDS

See the Museum's engines in steam and a host of other activities on the following dates:

- 14 & 15 May
- 17 & 18 September
- 12 & 13 November

Please visit our website for full details of what's happening each weekend.

## MAY HALF TERM

**28 May to 5 June**

Join us everyday during half term for train themed family fun, including storytelling, crafts and model railways.

Plus on Friday 3 June, celebrate the Queen's Platinum Jubilee with a garden party at the Museum. Bring a picnic and join in with scavenger hunts, natural crafts, and storytelling.



For a full list of upcoming events, please visit:

<https://waterandsteam.org.uk/events>



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