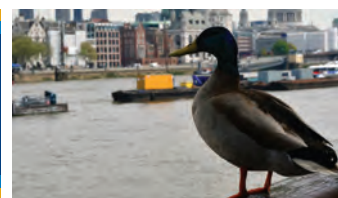




ENVIRONMENT REPORT 2018



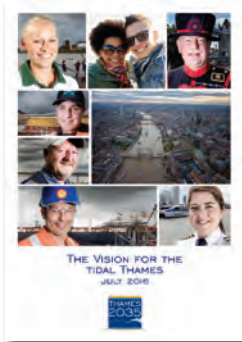
The Thames Vision: “The River Thames the cleanest since the Industrial Revolution, with improved habitats”



About the PLA

- We are the Custodians of the Tidal Thames, from Teddington to the North Sea. As a Trust Port, we hold the Thames in trust for future generations. With no shareholders, we operate for the benefit of our stakeholders.
- We work to ensure navigational safety along the tidal Thames, sharing our marine, environmental, planning and other expertise to promote use of the river and safeguard its unique marine environment.
- The tidal Thames is one of the UK's busiest waterways and is home to the country's second biggest port by tonnage of goods handled.
- **Stakeholder's ambitions are set out in the Thames Vision.**

The Thames Vision is a 20-year development framework for the river, created with stakeholders over 18 months from early 2015 to mid-2016. Across six goals, the Vision targets greater river use, alongside an improving environment. The Vision is being delivered in partnership by the PLA and stakeholders; key elements of the Vision are reflected in the London Plan and the Mayor of London's environment and transport strategies. The Environment and Heritage goal is to see ***"the river the cleanest since the Industrial Revolution, with improved habitats and awareness of heritage"***.



- ***The PLA Strategy is to support the Vision ambitions.***

To deliver the Vision our Strategy is centred on key themes:

PROTECT – targeting Zero Harm and improved sustainability

IMPROVE – running efficient operations and investing to support growing river use

PROMOTE – leading the Thames Vision to unlock the potential of the Thames

- ***PLA Environment Mission Statement***

The Mission Statement sets out the key objectives to achieve our environmental goals.

- ***PLA policies drive our activities***

To deliver corporate environmental improvements we have an Environmental Policy, which has a target for carbon emission reduction, and an Energy Policy, which targets a reduction in energy consumption.

Overview page 3

Cleaning the River – Air and Water Quality page 4

Resource Management page 6

Greening the River – Biodiversity page 8



Overview

This report outlines our environmental aims, our progress to date and our future plans, including how we can contribute to relevant UN Sustainable Development Goals (SDGs). It is collated into three main themes of Cleaning the River, Resource Management and Greening the River, with links to further information on other pages of our website where appropriate. These include plans and actions relating directly to our operations, as well as our external facing role to improve the wider Thames environment, using our powers as a regulator, investor and advocate.

Key environmental statistics are contained within our Annual Report & Accounts, which can be found on our website: www.pla.co.uk.

Key achievements:

- First UK port to produce an [Air Quality Strategy](#)
- Convening an annual [Environment Conference](#) to report on environmental achievements
- Producing a Natural Capital Account for the tidal Thames
- Initiating and supporting the ongoing [Cleaner Thames](#) campaign and producing a [Litter Strategy](#)
- Thames Tideway Tunnel construction is progressing
- [Working in Partnership](#) with regulators and our stakeholders to deliver the goals of the Thames Vision.

Future Plans

Many of our future plans are set out in our published strategies ([Air Quality](#); [Litter](#)) but on a broader note we also plan to:

- Partner with the [RSPB](#) to drive improvements in habitat in North Kent and South Essex
- Produce guidance for river related developments to aid developers and planning authorities
- Continue to work on the [Air Quality Strategy](#) actions and update the Strategy
- Refurbish our main Gravesend office to improve working conditions and reduce energy consumption
- Thames Tideway Tunnel will come into operation, improving water quality of the river
- We are working towards our contributions to the UN SDGs – see our current progress on line: www.pla.co.uk/SDG
- Review Climate Change Adaption Report.

Cleaning the River – Air and Water Quality

We published the first UK port air quality strategy in draft in 2017 and it was finalised in 2018. The aim of the Air Quality Strategy for the tidal Thames is:

“The reduction in harmful emissions to air from marine sources within the tidal River Thames, whilst facilitating the Port and London’s future growth.”

Eighteen priority actions will be worked on by the PLA and river stakeholders. The strategy has mobilised river users:

- A third of the MBNA Thames Clippers fleet is now able to run on renewable biofuel sources

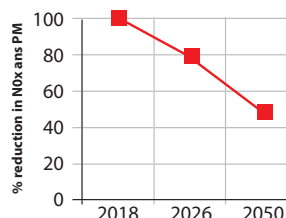
- Cory Riverside Energy has invested in more energy efficient tugs to propel their barges up and down the river
- Transport for London has commissioned hybrid ferries to replace standard ferries at the Woolwich Crossing

Water quality will be improved by the Thames Tideway Tunnel and in the meanwhile we have developed with partners a Litter Strategy to help reduce river contamination.

Air Quality Strategy

Baseline / Target

The Air Quality Strategy sets challenging targets, including a reduction in nitrogen oxides (NOx) and particulate matter (PM) by 50% in the next 25 years. Initial targets are to achieve a 20% reduction by 2021.

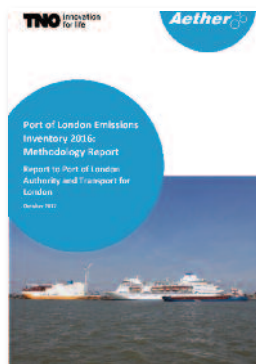


Achievements and results

Air Quality Strategy

We published the first UK port Air Quality Strategy in 2018.

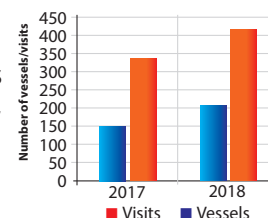
In partnership with Transport for London, a port wide air inventory of emissions from marine sources was calculated in 2017 – the first time the air quality has been calculated for the whole tidal Thames.



Air Quality – Green Tariff

Baseline / Target

In 2017, London was the first UK port to introduce a Green Tariff – a port charges discount scheme. To qualify, vessels must have an Environmental Shipping Index score of 30 or above based on environmental performance and applies to vessels that outperform current International Maritime Organisation emission standards.



Achievements and results



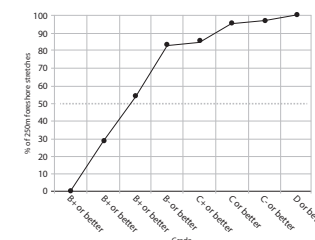
Green Tariff

The Green Tariff is proving successful with 40% more qualifying vessels calling on the Thames in 2018 than in the inaugural year 2017.

Litter and river-derived waste (Driftwood)

Baseline / Target

Our litter baseline for 2017 found 55% of surveyed foreshore was graded B or above (predominantly free of litter). The target is to achieve 75% graded B or above by 2022.



Achievements and results

Litter Campaigns

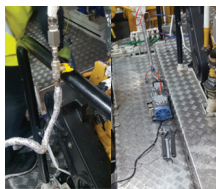
We launched the Cleaner Thames campaign in 2015, fronted by explorer and TV presenter Paul Rose and supported by partners. It encourages Londoners to “do the right thing” and put rubbish in bins.



Achievements and results

Emissions Monitoring – PLA craft

In 2018, we commissioned UCL to undertake monitoring of emissions from our vessels.



Guidance

We published Best Practice guidance for inland fleet operators in August 2018. This summarises technology, fuel, design and maintenance, operation and funding opportunities.



Proposals / next steps

Air Quality Monitoring

Real time air quality monitoring stations will be installed. Initially stations will be located at Greenwich in 2019 and will expand along the tidal Thames in 2020.



Air Quality Strategy Delivery

In partnership with the Greater London Authority, TfL, local councils, the Government and



other river stakeholders, work to deliver the eighteen Strategy actions by 2022.

Achievements and results

Conference

In December 2018 we hosted the Environmental Ship Index (ESI) steering group meeting to discuss the next phase of the ESI. ESI is part of the World Ports Sustainability Program. We use the ESI to determine vessels qualifying for the PLA Green Tariff.



Climate Change Adaption

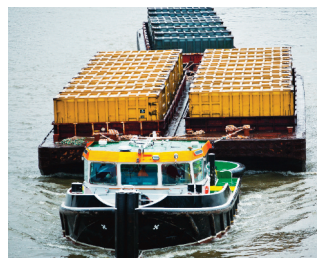
As a major port under the auspices of the Climate Change Act, we hold a Climate Change Adaption Plan that looks at ways to maintain port services in a changing climate. The PLA has also joined the London Climate Change Partnership to engage with wider stakeholders.



Proposals / next steps

Green Tariff

For 2019, the Green Tariff discount on main port charges has been doubled to 10%, providing a greater incentive for shipping lines to invest in ships with good environmental performance.



Green Tariff

We are reviewing the feasibility of extending the Green Tariff to inland fleet vessels.

Achievements and results

Litter Forum

We created the Forum in 2014. Members include non-government organisations, university researchers, river operators, businesses, industry bodies and authorities. As a result of the Thames Vision, the Forum has now become the delivery mechanism for the Litter Strategy. The Litter Strategy for the Thames was published in June 2018.



Litter Clean-Ups

Ongoing financial support to Thames21 allowing the charity to continue their litter clean-ups on London's rivers. A litter reporting mechanism was added to our website in 2018 to allow better quantification of litter clean up effort and materials removed.



Proposals / next steps

New Litter Collectors

We have been collecting litter through Central London using passive driftwood collectors (PDC) for many years. A new project in partnership with DP World at London Gateway will design a PDC suitable for conditions in the Estuary.



Encouraging Litter Collection

In 2019 we will be launching a study into the feasibility of two-minute litter picks on the Thames to enable the public to help keep the foreshore clear of litter.

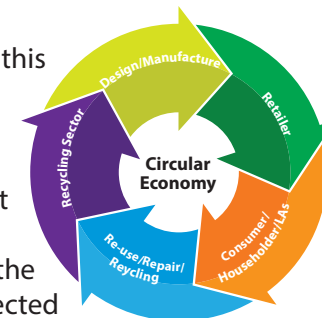


Resource Management

Like most organisations, we use resources to undertake our work, including electricity, gas and water in our buildings, and generate waste which could be utilised as a resource rather than being discarded. Our baseline year for resource management is 2014, when we undertook a comprehensive review of energy data.

In line with the UK Waste and Resources Strategy, and for compliance with our Environmental Management System ISO14001:2015, we are working towards the circular economy and life cycle considerations through reviews of purchasing, operation and disposal.

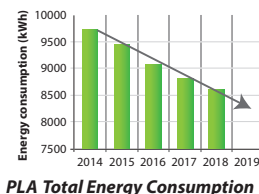
We are developing plans to refurbish our offices in Gravesend and this provides a great opportunity to reduce the building's energy consumption and modernise the working environment. Plans will be drawn up in 2019 and will incorporate energy efficient LED lighting and a more efficient heating and ventilation system, whilst the feasibility of further renewable energy sources will be determined as the design progresses. In addition, commissioning the new hybrid pilot cutter will reduce diesel consumption and is expected to help us achieve our target footprint reduction by 2023.



Energy

Baseline / Target

Our Energy Policy targets a reduction in energy consumption of 15% by 2020 based on a 2014 baseline. Based on the current trend, we should achieve the target in 2019.



Achievements and results

Renewable Energy - River

We have utilised renewable energy for a number of years:

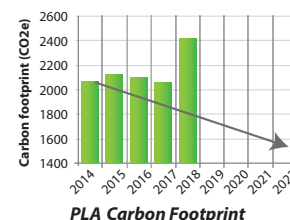
- Renewable energy powers 95% of our navigation lights
- Eight of our ten lighthouses and navigation beacons are powered by solar power and two of these also have small wind turbines to supplement the power.



Carbon Footprint

Baseline / Target

The PLA Environmental Policy targets a reduction in carbon footprint of 25% by 2023 against the 2014 baseline.



Achievements and results

Carbon Footprint

Although our total carbon footprint has not fallen dramatically, our carbon footprint per million tonnes of cargo has fallen since the 2014 baseline.

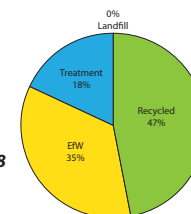


Waste and Materials

Baseline / Target

We have a zero waste to landfill policy and have sent no waste directly to landfill since 2016.

Waste Disposal Routes 2018



Achievements and results

Single Use Plastic Reduction

In 2018 we joined other high profile organisations in pledging to be single-use plastic free.

Measures have included removing plastic glasses and cutlery from offices and working with caterers and event hosts, whilst plastic-bottle-fed water coolers were replaced across our estate years ago with mains-fed water coolers.



Achievements and results

Renewable Energy – Land

- Photovoltaic panels were installed on the Main Shed at our yard in Denton in 2012 and now generate approximately 7% of the total electrical demand at the site.
- Solar thermal panels were installed on the roof of our main office base in Gravesend, and provide hot water to the building.



Energy Efficiency

Low energy lighting with movement sensors has been installed across all PLA-owned buildings for a number of years.

Proposals / next steps

Vessel Efficiency

Vessel fuel accounts for about 69% of our energy consumption. Vessel use is fundamental to our role, but small increases in efficiency would contribute to a reduction in energy use. Use of efficiency curves for behaviour change and better analysis of engine management data will create savings.



Energy Savings

We are required to comply with the Energy Savings Opportunity Scheme (ESOS) Regulations 2014 and have implemented a number of the Phase 1 recommendations. We will complete all the necessary steps for Phase 2 compliance to allow submission before the deadline in December 2019.



Achievements and results

Hybrid Technology

In 2018 we commissioned a new hybrid pilot cutter for use at Gravesend. Our current cutter, *Patrol*, is responsible for about 10% of the PLA's carbon footprint. With hybrid technology and improved design fuel consumption for the vessel, *Leader*, should fall and an accompanying reduction in our carbon footprint should be reflected in our 2019 figures.



Data

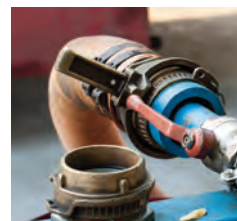
Significant progress has been made in the past four years to improve data capture at the PLA, allowing better analysis of options to reduce the corporate carbon footprint.



Proposals / next steps

Vessel Fuel

We are reviewing the potential to switch our vessel fleet to biodiesel, or similar alternatives, which would significantly reduce our carbon footprint whilst also having the benefit of improving emissions to air.



Office Refurbishment

Work should begin on the project to refurbish our Gravesend office in 2019. The project is to provide modern office facilities with improved energy efficiency which will reduce our carbon footprint.



Achievements and results

Water Use



During the development of our operational complex at Marine House (Denton) in 2009, a system of rainwater harvesting was incorporated to reduce mains water consumption. Rainwater provides approximately 35% of the water use at Marine House.

Green Technology

Since 2017 we have required all developments on the river to consider the feasibility of installing "Green Technologies" which may enhance energy efficiency, generate renewable energy or conserve resources, eg rainwater harvesting.



Proposals / next steps

Waste Contract

2019 will see a review of our waste contracts with the aim of reducing our total waste production and increasing the amount of waste we recycle.



Water Reduction

Water reduction measures will be incorporated into the Gravesend office refurbishment.



Greening the River – Biodiversity

The tidal Thames covers a range of diverse habitats and is home to a large number of different species. There are nine Sites of Special Scientific Interest (SSSI), four Special Protection Areas, two Special Areas of Conservation and three Ramsar sites that fall within our jurisdiction or land ownership. Natural England divides SSSIs into units depending on habitat



type. They assess the status of SSSI's every six years to indicate broadly whether units on the site are favourable (habitats and features are in a healthy state) or unfavourable.

River													
Baseline / Target													
<p>The <u>Thames Vision Invasive Non Native Species (INNS)</u> Group identified that there should be no increase in the number of INNS recorded in the Thames and riverside land. An assessment was made of the number of INNS species records held by the National Biodiversity Network (NBN) between 2011 and 2016 in the tidal Thames.</p>	<table border="1"> <caption>Number of known INNS species in the tidal Thames</caption> <thead> <tr> <th>Year</th> <th>Number of known INNS species</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>8</td> </tr> <tr> <td>2020</td> <td>8</td> </tr> <tr> <td>2025</td> <td>8</td> </tr> <tr> <td>2030</td> <td>8</td> </tr> <tr> <td>2035</td> <td>8</td> </tr> </tbody> </table>	Year	Number of known INNS species	2016	8	2020	8	2025	8	2030	8	2035	8
Year	Number of known INNS species												
2016	8												
2020	8												
2025	8												
2030	8												
2035	8												
Achievements and results													
<p>Natural Capital Accounting During 2018 we commissioned</p>	<p>eftec economics for the environment</p> <p>eftec to produce a Natural Capital Account for the tidal Thames. Natural Capital is the sum of natural assets from which there are benefits. As nature is usually invisible in economic terms, defining these benefits and assigning monetary values allows natural habitats to appear on a balance sheet alongside all other assets. This baseline Natural Capital Account for the tidal Thames indicates a net ecosystem services value of £4.6 billion over 60 years, with most costs and benefits accruing to Thames stakeholders rather than the PLA.</p>												

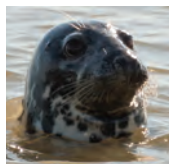
River Edges	
Baseline / Target	
<p>Biodiverse sites are important but getting connections between these sites is vital to allow wildlife to spread and flourish. We measured gaps between designated wildlife sites and found 115km (or 31%) of the river is designated habitat. The Thames Vision goal is to improve the connectivity between biodiverse habitats and the initial target is to see no loss of habitat.</p>	
Achievements and results	
<p>Communication – Estuary Edges We have partnered with the Environment Agency and Thames Estuary Partnership to revise the Estuary Edges biodiversity enhancement guidance. The document aims to help river wall owners and developers to “green the edges” along the tidal Thames which will contribute to the Vision goal to improve connectivity.</p>	

Land	
Baseline / Target	
<p>Thames SSSI Status</p> <p>Unfavourable Declining Unfavourable Recovering Favourable</p>	<p>The Thames Vision goal is to improve the biodiversity of sites recognised for their wildlife interest. Of the SSSIs that fall into land owned by, or within our jurisdiction, 70% are in favourable condition and 30% unfavourable – requiring appropriate management to prevent special features being lost. The target is no net decline of sites, with an aspiration of none with Unfavourable Declining status.</p>
Achievements and results	
<p>Habitat Management – Rainham Silt Lagoons The lagoons, in the Inner Thames Marshes SSSI, were reactivated in 2018. We partnered with Land and Water Services Limited (LAWS) who will manage the site for ecological benefit during operation, and will work closely with the RSPB to prevent impacts on existing bird populations. In conjunction with interested parties LAWS have developed a <u>restoration scheme</u> for the site which will enable it to improve from its current unfavourable SSSI status by providing suitable wet habitat for birds whilst retaining a dry area for protected invertebrate species.</p>	

Achievements and results

Vision Biodiversity

An assessment was made using National Biodiversity Network (NBN) records of the number of key bird, fish, mammal, invertebrate and plant species between 2011 and 2016 in the three tidal Thames Water Framework Directive water bodies and compared against the key species identified by the Vision Biodiversity Group. This will be repeated to track the increasing presence of key species.



Information – The tidal Thames ecology map

This has recently been updated and is available on the PLA website or on request as an A2 hardcopy.



Proposals / next steps

Vision INNS

The Vision INNS and Biodiversity Group will finalise a Strategy and Action Plan.



Vision Biodiversity

In 2019 we will develop proposals with our partners to achieve significant habitat improvements at West Thurrock Lagoon and Marshes SSSI with an aim that the intertidal SSSI unit will be classified as "Favourable" when it is next reviewed.

Achievements and results

Communications – Conference

We organised the first Environment and Heritage Conference in 2017 to share progress towards the Thames Vision goals. This annual event aims to cover a range of topics that cross the Environment and Heritage goals but are delivered through the wider use and growth of the port under the Vision.



Habitat Management – Oliver's Ait

On the mid-stream island that we own, Oliver's Ait, cages have been placed in selected locations to exclude Canada Geese to determine if they, or other factors, are the cause of poor vegetation growth on the island.



Proposals / next steps

Data – closing the gaps

We have identified 37 river locations, totalling 11km, of habitat enhancements added to developments. Future work will identify which of these habitat enhancements have been installed to replace lost habitat and which are additional so we can determine where gaps are decreasing in line with the Vision goal.

Local Authority Guidance

Guidance for local authorities and developers will be published in 2019, encouraging use of the river to improve air quality and reduce congestion. It will also provide links to sustainability topics easily implemented into riverside schemes, such as litter reduction, sustainable drainage and green infrastructure. Following the guidance will help developers create habitat and contribute to the Vision goal to reduce gaps between biodiverse sites.

Achievements and results

Habitat Management – Farmland

PLA owned farmland at Cliffe and Allhallows is managed according to Natural England's Higher Level Stewardship scheme. HLS is open to eligible farms and requires complex environmental management. Farming in harmony with the natural environment allows wildlife on these farms to flourish. Ad hoc observation surveys undertaken by the farmers indicated 92 species of bird were spotted in 2017, along with five damselfly, nine dragonfly and three scarce bee species. Anecdotal evidence suggests the number of species are increasing.

Habitat Management – Farmland at Cliffe

In 2017 we supported ditch clearance work at Cliffe to allow better water management which should benefit farming and wildlife across the area, which is designated as SSSI, Ramsar and SPA.

Proposals / next steps

Farmland Monitoring

In 2019 we aim to start ecological monitoring of our tenanted farmland to develop a baseline against which we can assess future improvement works.



RSPB Partnership

In 2019 we will partner with the RSPB through our Investment Fund, investing over £150,000 to improve habitat on RSPB Reserves in North Kent and South Essex. This work will help deliver the Vision goal by improving the condition of priority habitat, create new habitat and form new wetland ditches. The works will benefit lapwing, avocet and redshank, plus rare dragon and damselfly and bee and wasp species.





See our how we are contributing to Sustainable
Developments Goals at: www.pla.co.uk/SDG



CUSTODIANS OF THE TIDAL THAMES

PROTECT | IMPROVE | PROMOTE

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