FORCE
Friends of the River Crane Environment

frog environmental

ZSL
LET'S WORK FOR WILDLIFE

Thames Water

Crane Valley Partnership
HARROW · EALING · HILLINGDON
HOUNSLOW · RICHMOND

Environment Agency

Citizen Crane

Year Five

Annual Forum

Agenda

- 10:00 - Arrival, registration and coffee
- 10:15 - Welcome and introduction (John Waxman, CVP)
- 10:20 - Citizen Crane project update (Richard Haine & Rob Gray, Citizen Crane)
- 10:40 - Feedback from the EA (Richard James, Environment Agency)
- 10:50 - The Thames Water Surface Outfall Programme (Ruta Akelyte, Thames Water)
- 11.00 – Q&A
- 11:15 - Road runoff and rivers - Transport for London Perspective (Charles Snead, Transport for London)
- 11:30 - **BREAK**
- 11:45 - A smarter catchment discussion (led by Helena Soteriou, John Waxman and the CC team)
- 12:30 - Summary and Announcements (Joe Pecorelli)
- **LUNCH**

  Photo and Health & Safety Review for volunteers

John Waxman, Development Manager,

Crane Valley Partnership

Crane Catchment Map & Monitoring Points

- 35 km main channel length
- 12 monitoring sites in 5 boroughs (increased to 16 in Jan 2019)
- Monthly RMI and water quality (P and AN) - concentration and loading
- TW UKAS accredited labs for water quality analysis

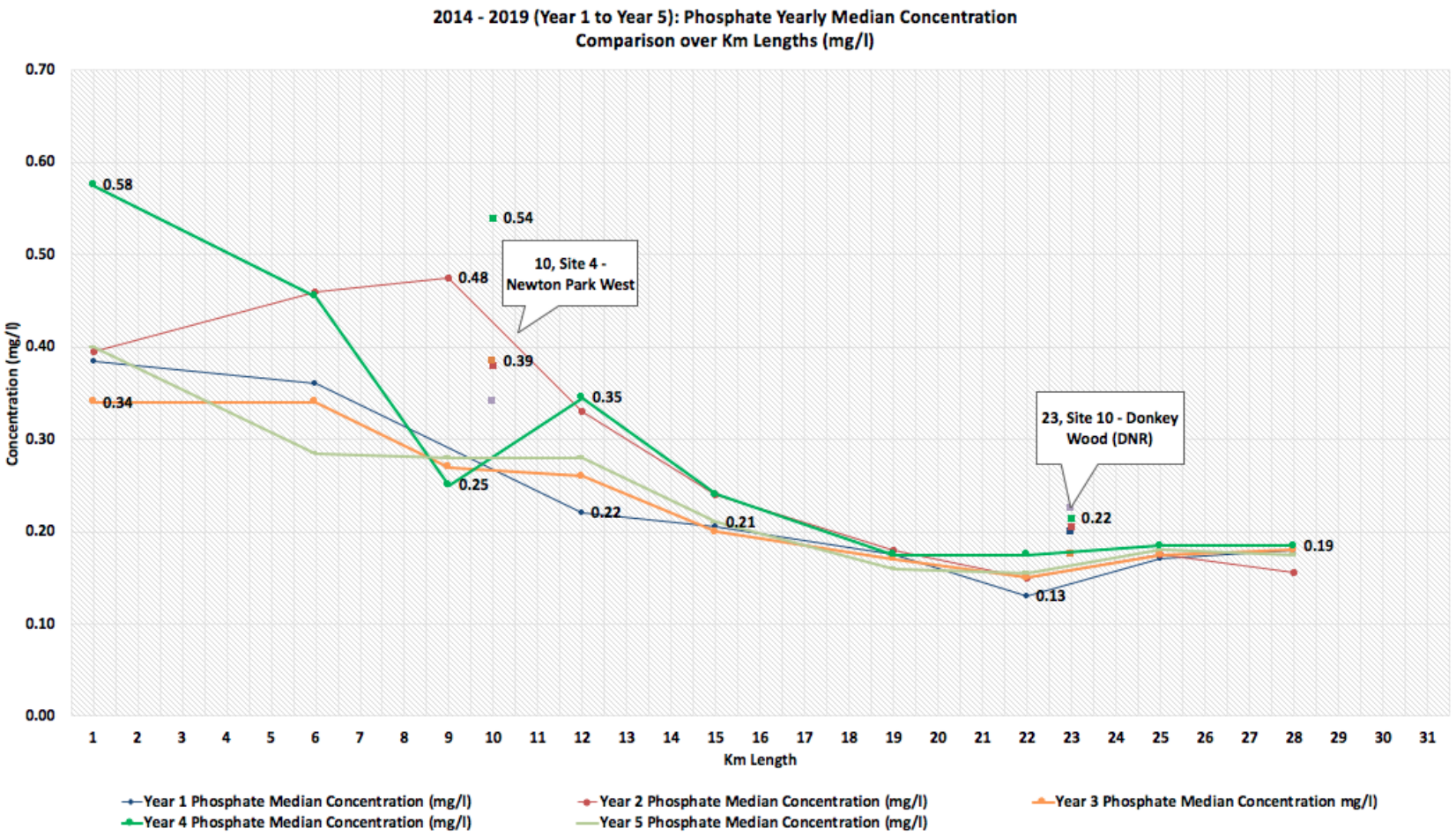
Project Features

1. Monitoring started in May 2014
2. Volunteer led (over 60 volunteers trained)
3. Project team: ZSL, FORCE & frog environmental – T21 support in upper catchment
4. Steering Group: CVP, EA + TW (meet quarterly)
5. Annual Report and Forum
6. Monthly SWOP outfall monitoring since 2015
7. Outfall Safari in 2016 (next in Spring 2020)
8. TW funding until spring 2020 (start of AMP 7)

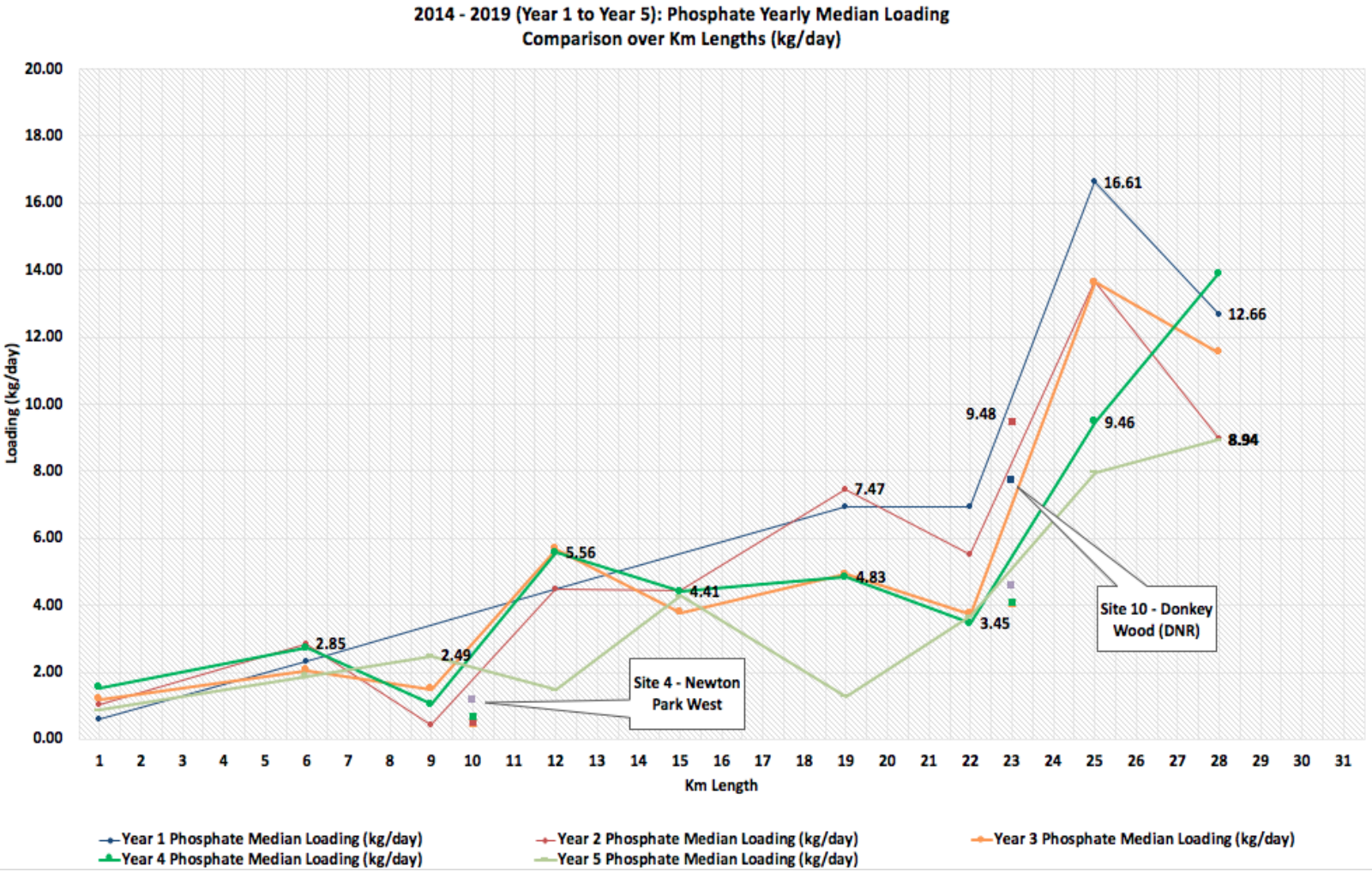
Previous Project Findings

1. Method is reliable and consistent
2. Our volunteers are remarkably diligent
3. Upper reaches are poor
4. WQ generally improves downstream
5. Better WQ but poor geomorphology in middle
6. Upper DNR: poor Phosphate but improves RMI
7. Ammonia more important than P as RMI control
8. Outfall Safari found major pollution sources

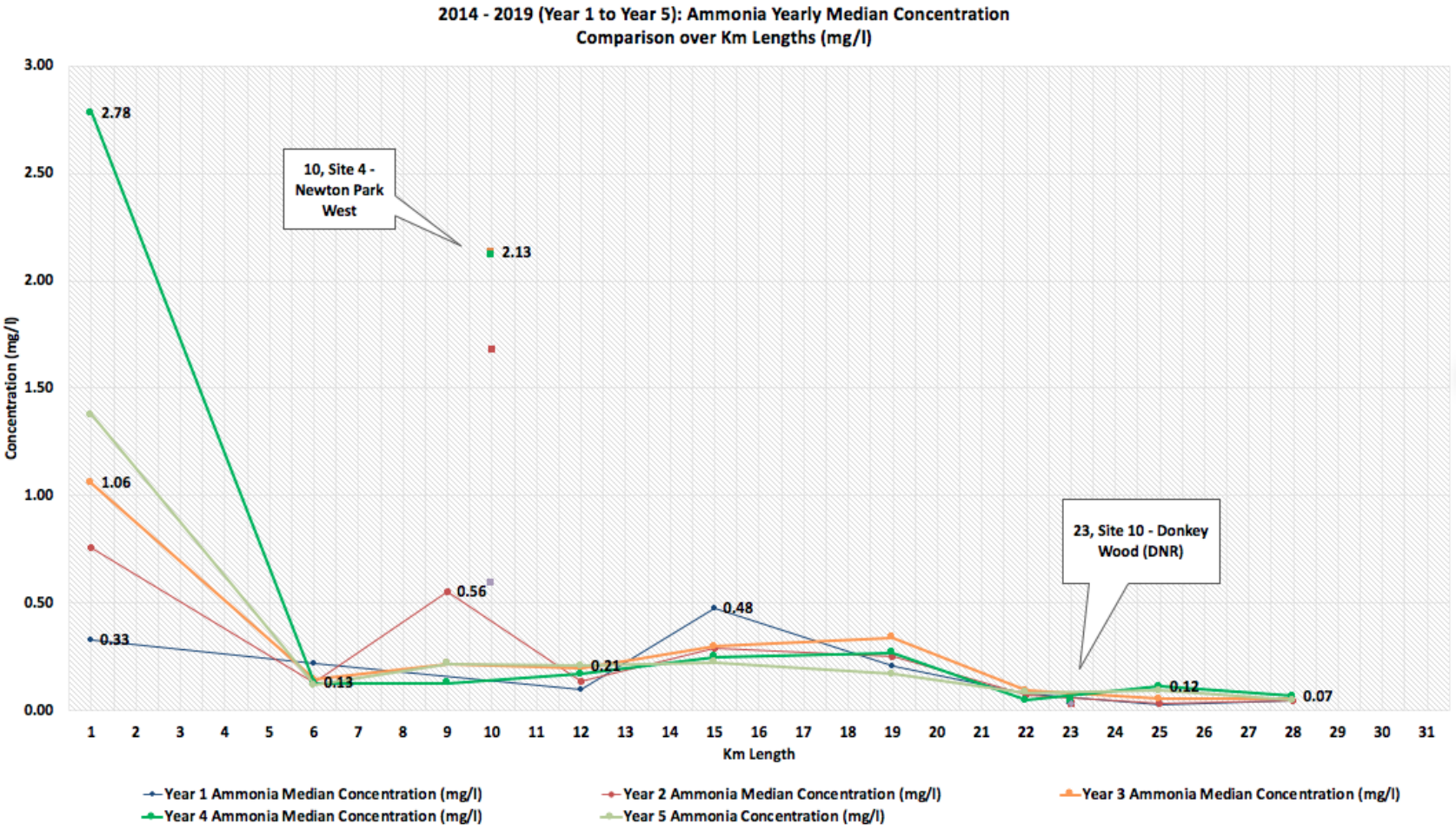
Phosphate Concentrations



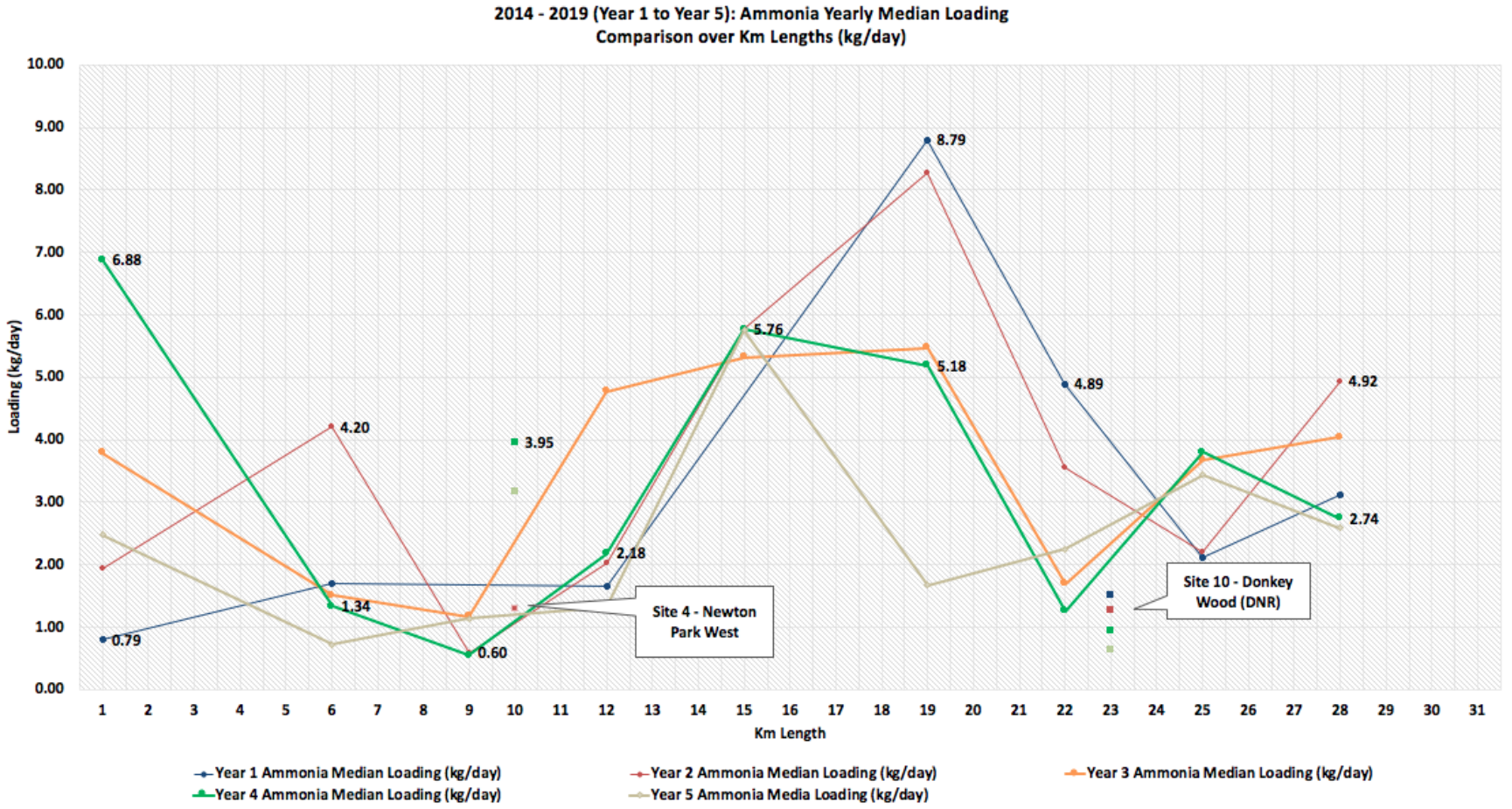
Phosphate Loadings



Ammoniacal N Concentrations

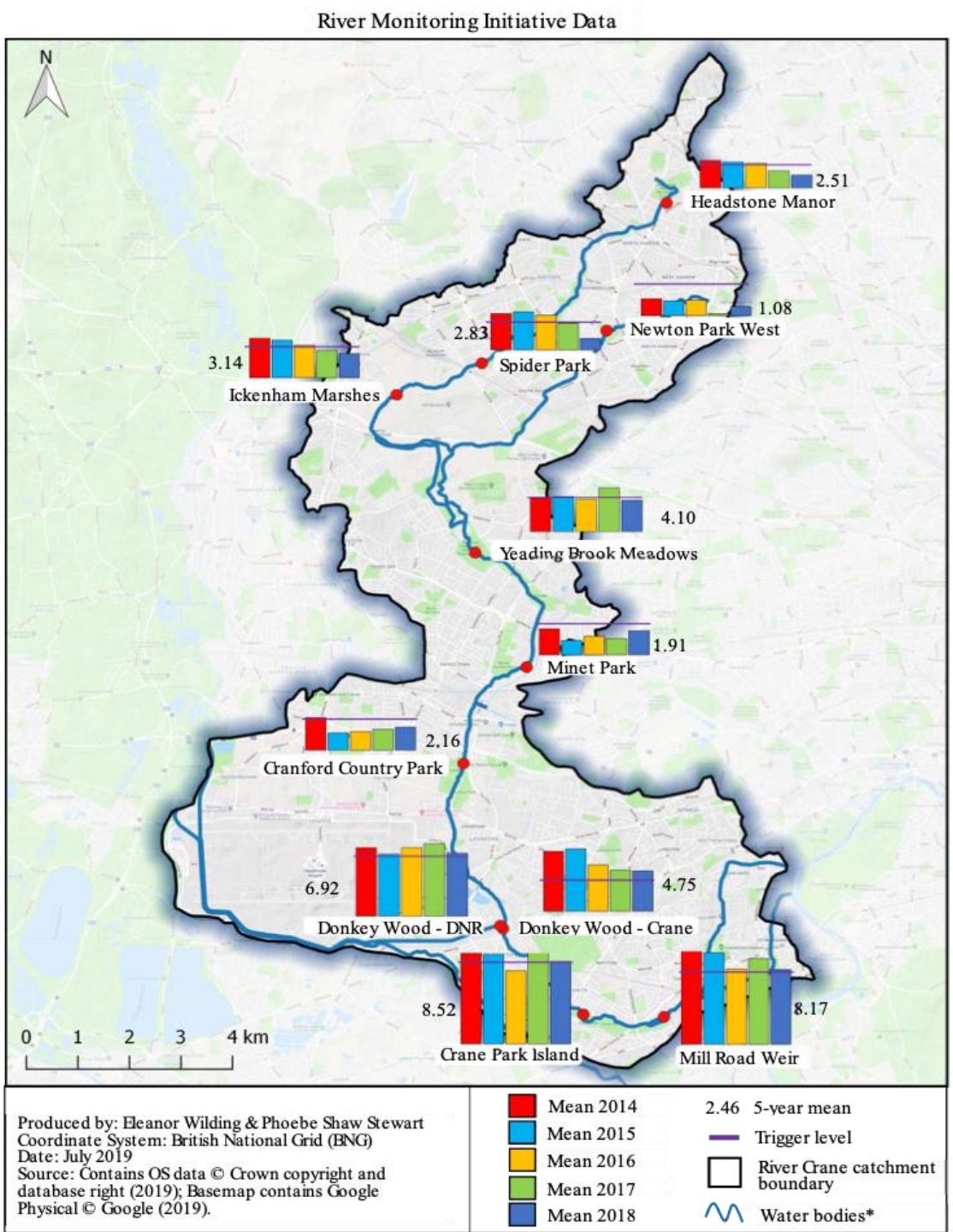


Ammoniacal N loadings



RMI data

- Poor results in upper and middle reaches
- No improvement to overall picture over 5 years
- RMI scores are worse in places

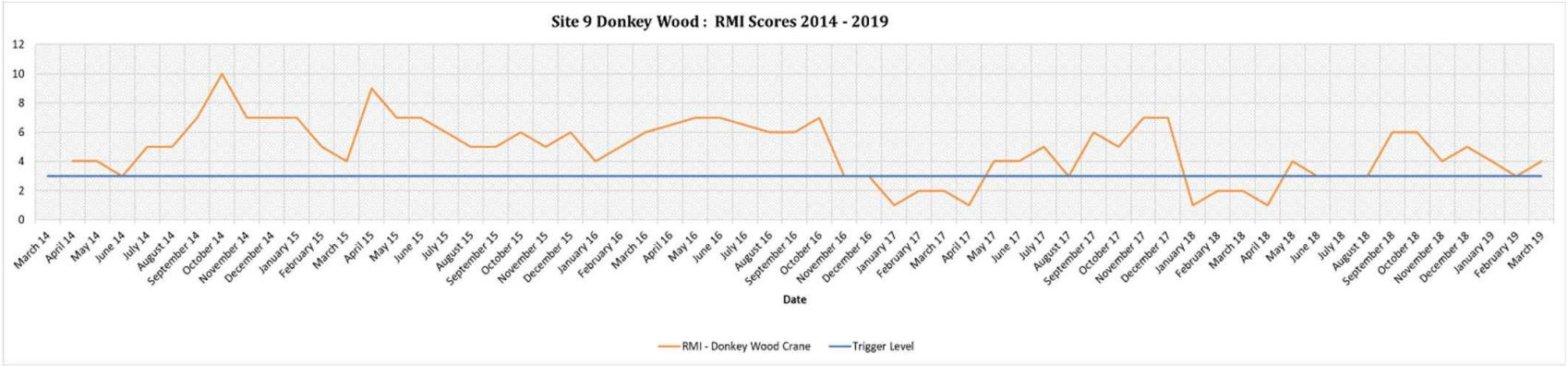


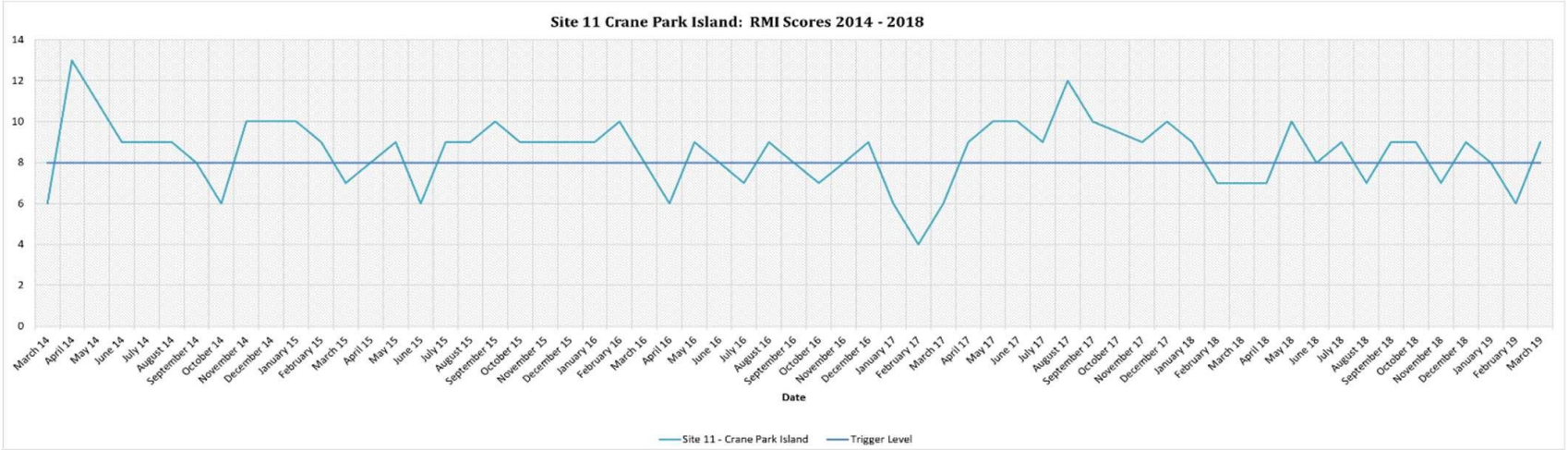
RMI Diversity by Monitoring Site

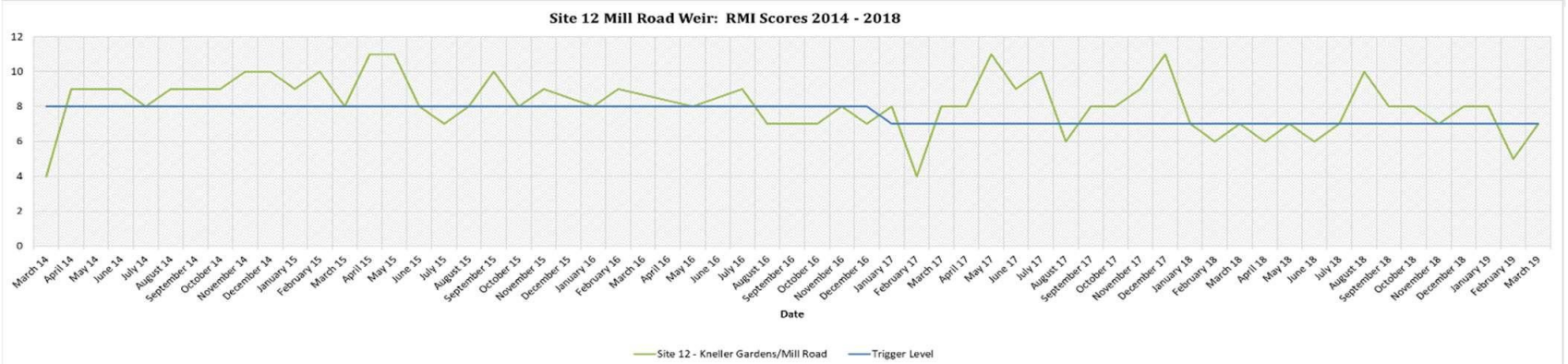
	Headstone Manor	Newton Park West	Spider Park	Ickenham Marshes	Yeading Brook Meadows	Minet Country Park	Cranford Country park	Donkey Wood-Crane	Crane Park Island	Mill Road Weir
Flat bodied mayfly (Heptageniidae)					✓				✓	✓
Mayfly (Ephemeridae)									✓	✓
Blue Winged Olive Mayfly (Ephemerellidae)				✓	✓		✓	✓	✓	✓
Olives (Baetidae)	✓		✓	✓	✓	✓		✓	✓	✓
Stoneflies										
Caseless caddis							✓	✓	✓	✓
Cased caddis	✓		✓		✓		✓	✓	✓	✓
Gammarus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total number of RMI groups found	**3**	**1**	**3**	**3**	**5**	**2**	**4**	**5**	**7**	**7**

RMI & Pollution Identification

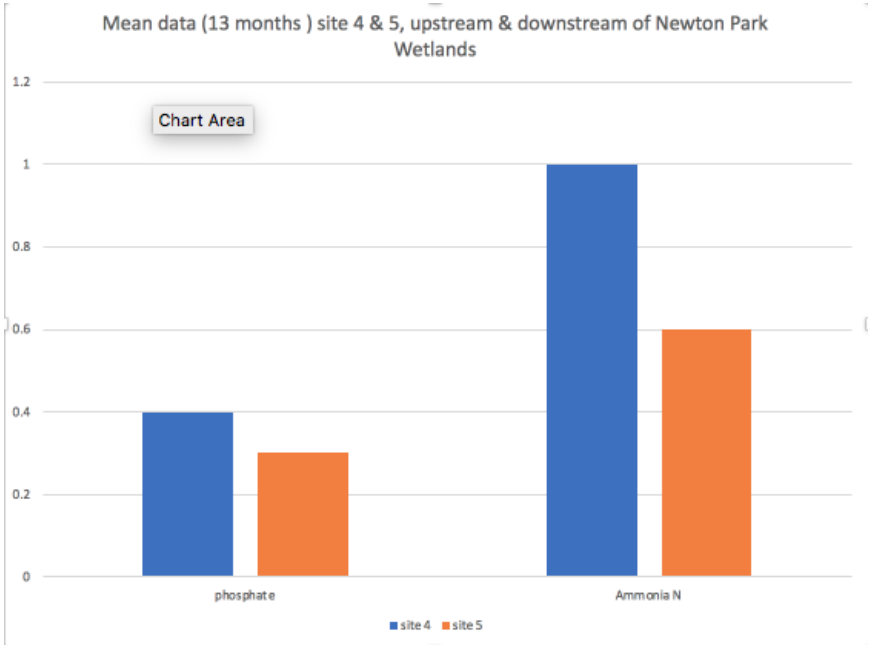
RMI Data & Pollution Identification







Newton Park Wetlands



- Data from year 1 suggests positive water quality impact of the wetland
- Olives (baetidae) found for the first time during RMI
- However, cannot attribute cause and effect directly
- Does monitoring of new wetlands form part of Citizen Crane in future?

Key Project Benefits

1. Teams of volunteers: eyes and ears for the catchment
2. Identified over 20 pollution incidents – enforcement and prosecution follow
3. TW SWOP to upper reaches: 538 properties and 1578 appliances resolved in AMP7
4. Volunteer monitoring of SWOP helps target problem issues
5. Increased public and council awareness of misconnections
6. A dozen Universities engaged in the project
7. Outfall Safari applied across London

The Crane After Five Years

1. Lots of pollutants and risks removed – much better than it would have been
2. Evidence of local improvement – e.g. Newton Park
3. Major investment – e.g. Heathrow and Headstone Manor
4. Much higher profile and good public and partner engagement
5. However - the river remains in poor to moderate condition
6. No overall water quality improvement and RMI evidence of ongoing decline
7. Why? System inertia; other issues; not enough positive change?

Eleven Variables Identified

1. Misconnections – including new ones
2. Pollution incidents
3. Network Issues
4. CSO's
5. Heathrow
6. Road runoff
7. Geomorphology (plus shading)
8. Sediment
9. Upper Duke's River input
10. Meteorology and low flows
11. Wetlands and SUDS

Summary of problems & solutions

the problems

Sewer Network: poor design, structural failure, blockages and/or misconnected properties result in organic waste and nutrients discharging to the river

Poor habitat diversity and diminished flood plain reduce the river's capacity to process pollutants and support wildlife

Over widened channels, exacerbated by low flows, leads to excessive siltation, smothering the riverbed habitats of animals and plants

Urban river systems are complex and there is only a partial understanding of how the combinations of many variables control the condition of the river

Urban run-off carries pollutants such as heavy metals and hydrocarbons from roads and other hard surfaces into the river where they accumulate in the silt

the solutions

Investigate the extent of sewer failures, repair faults and continue to tackle misconnected properties. Increase pro-active surveys for blockages and cross connections

Renaturalise more of the river bank and add habit features to create a better flow regime and enhance biodiversity

Install sustainable drainage systems (SUDS), including wetland systems, to intercept pollutants from roads, particularly in pollution hotspots, and reduce peak water flows

Work with Citizen Scientists to better understand how the river functions and evaluate the success of interventions. Engage with stakeholders and the wider community to deliver and manage ongoing improvements

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Strategy to April 2020

1. Continue monitoring
2. Support and grow volunteer numbers
3. Links to Camellia et al – e.g. road runoff work
4. Links to other smarter catchments – Chess; Evenlode; Wandle and Kennet
5. Scope “Smarter Water Catchment” project with TW and CVP
6. Agree a baseline data set and conceptual model for SWC
7. New Outfall Safari in spring 2020
8. Work with volunteers on shaping the future of Citizen Crane

Keeping you informed about incidents

Richard James

EA Catchment Coordinator (Brent, Crane and London Lea)

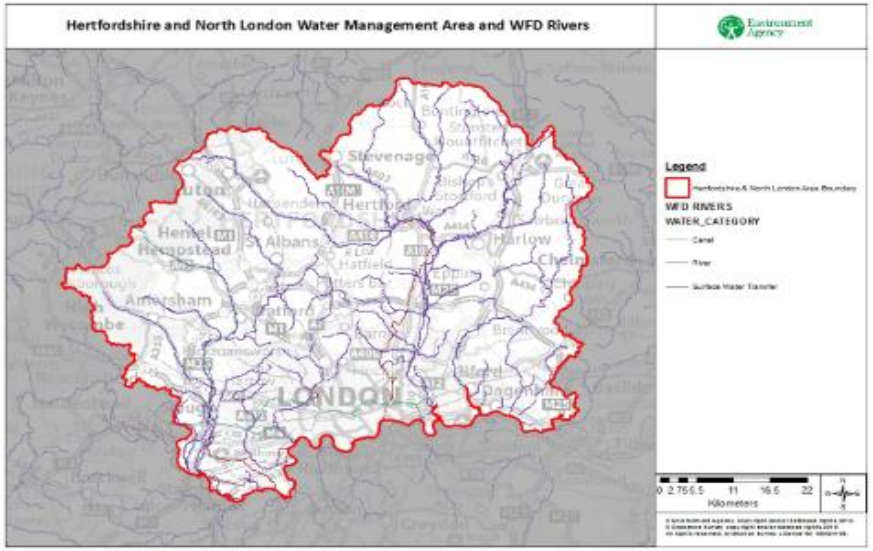
Hertfordshire and North London Incident Notifications

Overview

You can now sign up to receive email notifications of significant and major environmental incidents affecting watercourses in the Environment Agency's Hertfordshire and North London Area (see map below). Just fill out the form at the bottom of this page.

We will aim to issue key messages on the first working day of our response to significant and major environmental incidents. We will then issue periodic updates of our progress responding to the incident.

When you receive one of our key messages, please forward on to other members of your group, community and/or partner organisations to help us inform as much of the community as possible. We will also release similar information via our Twitter account @EnvAgencySE.



Closes 7 Apr 2020

Opened 1 Oct 2019

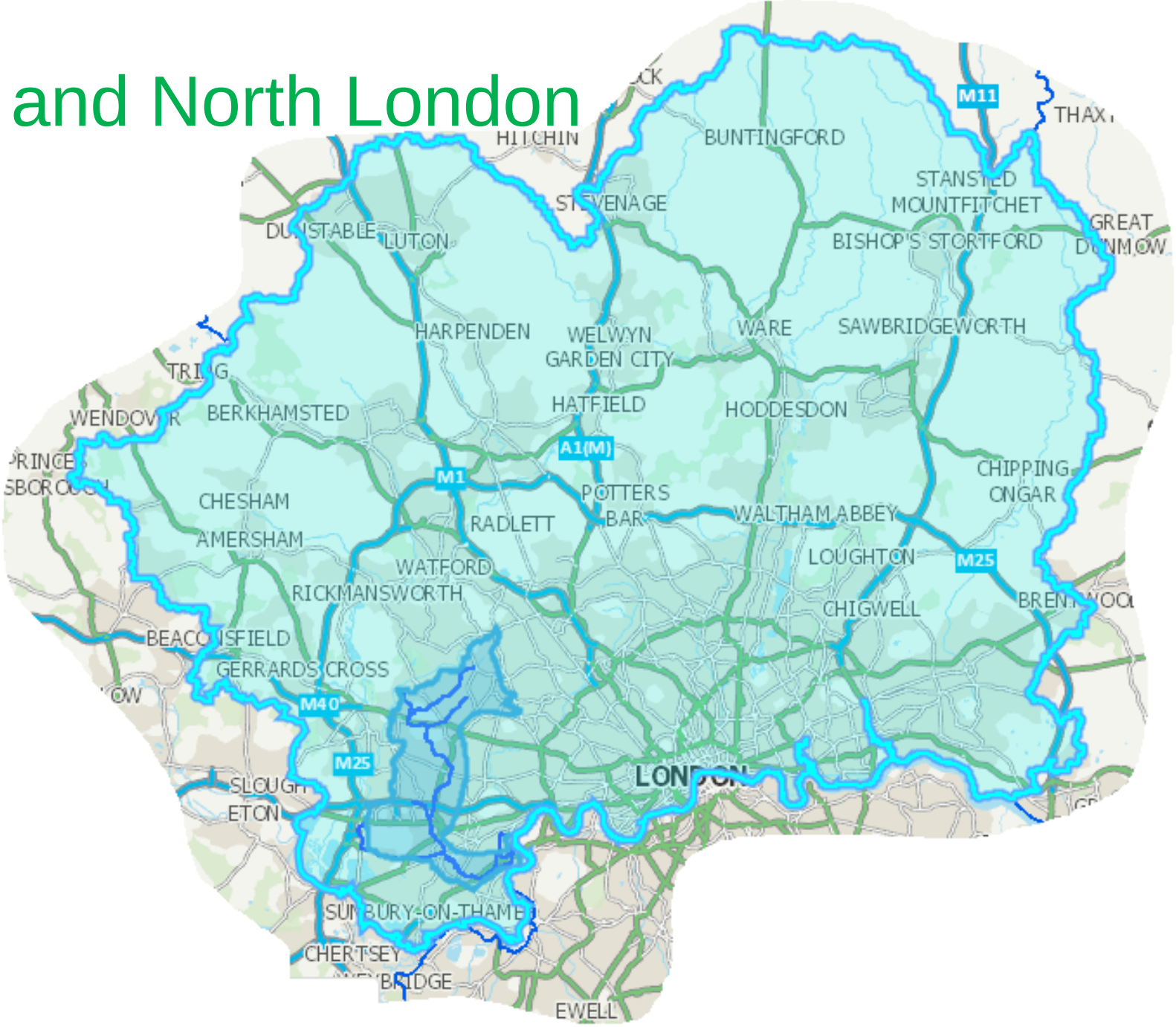
Contact

03708 506 506

enquiries@environment-agency.gov.uk

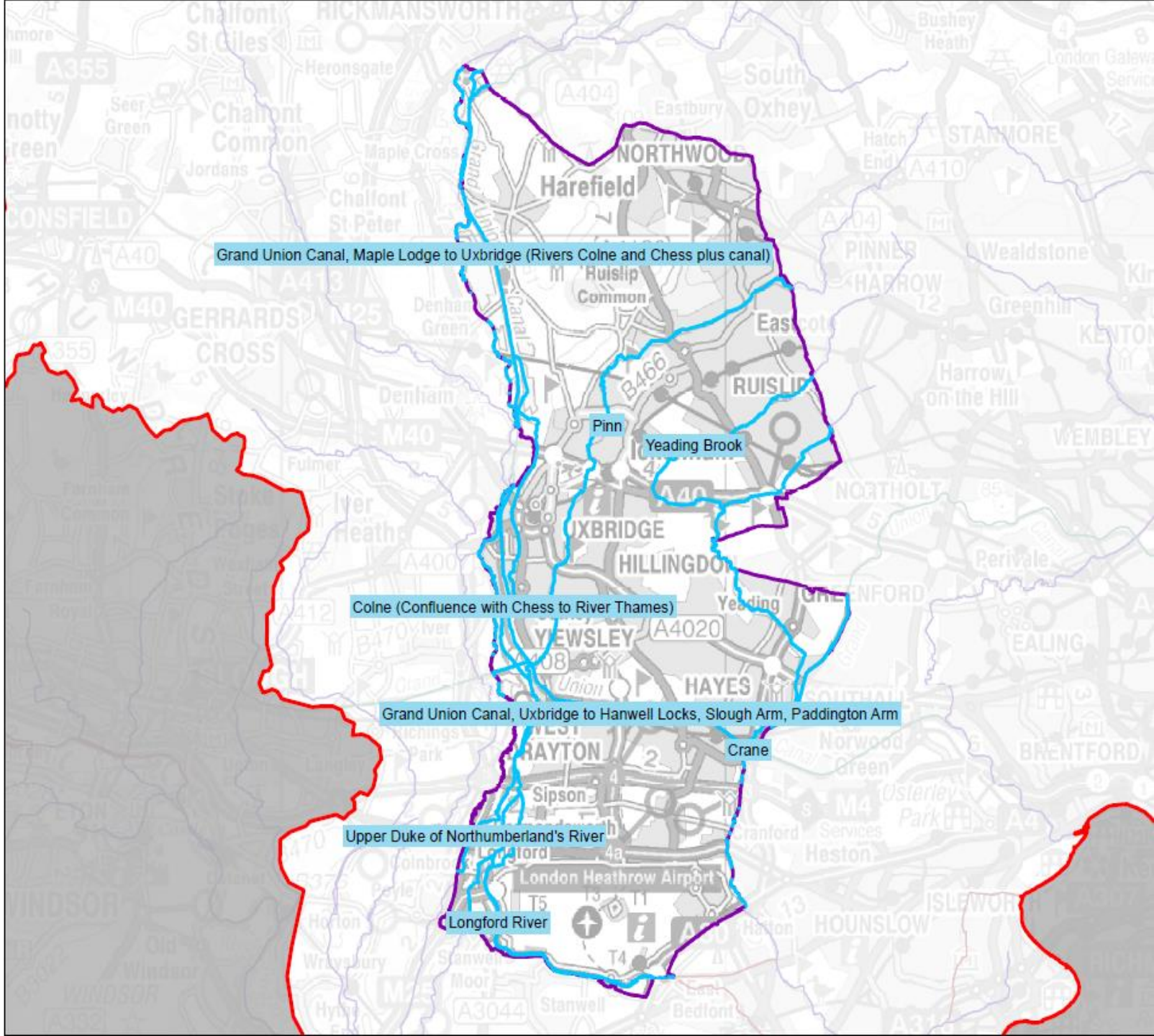
consult.environment-agency.gov.uk/hnl/hnl-incidents-notifications

Hertfordshire and North London



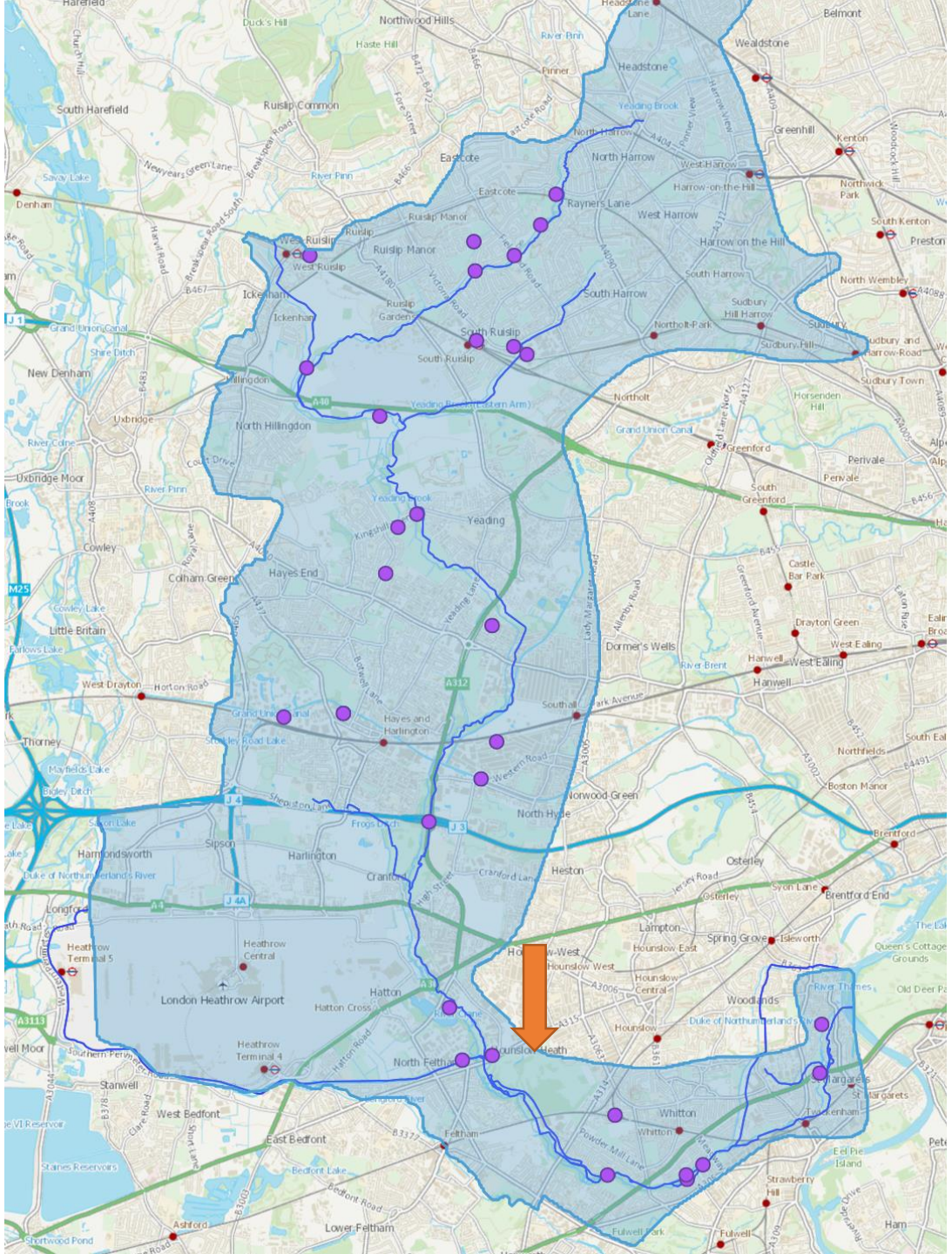
How it works

- Email address
- Select London Borough
- Select waterbodies



Let us know what you think

Incidents on the Crane so far this year



National Incident Hotline

Freephone from landline or mobile:

0800 80 70 60

- Where is it?
- Is the water discoloured?
- Is there an odour?
- How big is the area affected?
- Have you seen any dead or distressed fish or other wildlife?

- What is the cause of the problem/where is the pollution entering the stream?
- Has this ever happened before?
- Do you have any pictures?
- Your contact details

RMI data support

- HNL_AnalysisandReporti@environment-agency.gov.uk

Mereway Weir replacement

Fish pass


KNELLER GARDENS
TREES REMOVED
FLOW ENTRY WITH STOPLOG / PENSTOCK
FISH PASS
FLOW
PICNIC AREA
PICNIC AREA
POOL AND RIFFLES TO SIMULATE FEATURES OF NATURAL STREAM
FOOTPATH
TREES REMOVED
TREES REMOVED
TREES REMOVED
CULVERT WITH WING WALLS
SHEET PILED WALL WITH LARINIER FISH PASS
RIVER CRANE
FLOW
WEIR
FOOTBRIDGE

Surface Water Outfall Programme (SWOP)

16th of October 2019

Ruta Akelyte
Environmental Protection Advisor

Today's Agenda

- SWOP – Surface Water Outfall Programme
- AMP6 Review
- AMP6 Review – River Crane & tributaries
- Outfall Safari
- Future work

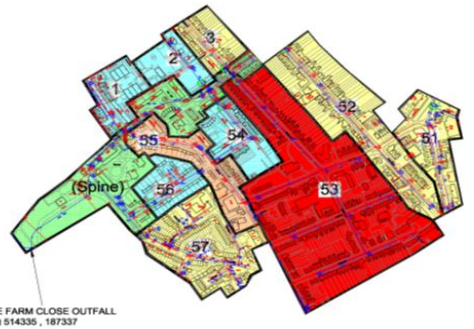
Surface Water Outfall Programme (SWOP)

- Developed by Thames Water and Environment Agency
- Outfalls suffering from widespread pollution, require a strategic, long-term investigations
- Follows the nationally agreed good practice
- Funding approval from Ofwat
- Funding released in Asset Management Plans (AMP) – over a 5 year period
- Currently in year 5 of AMP6
- 183 delivered to date, 12 – in year 5.
- ~ 80 live projects

Surface Water Outfall Programme (SWOP)

Stages of SWOP Project

- **Waiting List** – the outfall has been identified as suffering from widespread misconnections and added to the SWOP List.
- **Pre-Survey** – project is with the contractor but field work has not started.
- **Field Investigation & Property Inspections (Caging included)** – The contractor has started the investigation of the catchment, i.e. pollution tracing, property surveys, CCTV, etc.
- **Drainage Rectification** – the investigation of the catchment has been completed, awaiting for customers to rectify misconnections.
- **Signed Off** – the outfall has been significantly improved to the satisfaction of the Environment Agency. There might still be outstanding misconnections in the catchment, however they would be handed over to Local Authorities for enforcement.



Surface Water Outfall Programme (SWOP)

Misconnection tracing

Lift and look - visual assessments for sewage fungus/soap suds/odour etc.

Caging – wire mesh cages placed in manholes ,within a catchment and checked after dry weather for evidence of misconnections: rag, faecal matter, kitchen waste or bacterial growth

CCTV surveys can be used to check for sewer defects and polluted lateral connections. Also useful when road conditions make other tracing techniques difficult

Dye-tracing to confirm a connection

AMP6 Review

- **183** outfalls have been significantly improved to date
- **~3300** properties with misconnections were identified in the process
- **~8000** misconnected appliances identified
- **~850** other pollution sources identified
- **~90%** of these property owners resolved the issue voluntarily
- The remainder were handed over to Local Authorities for enforcement
- ~ 2300 properties with more than 5500 misconnected appliances on live projects

1836
23.5%

1788
22.8%

1635
20.9%

742
9.5%

589
7.5%

563
7.1%

674
8.6%

AMP6 Review – River Crane & tributaries

	Outfalls	Misconnected Properties Identified	Misconnected Appliances	Misconnected Properties Rectified	Outstanding Misconnected Properties
AMP6 SWOP – Live projects	7	119	317	96	23
AMP6 SWOP – Signed off by the EA	38	461	1229	449	12
Waiting List	9	n/a	n/a	n/a	n/a
Total	54	580	1546	545	35

~40

Cases with EHO's

99

Other Pollution Sources (Gully dividers, blockages, defects, SW caps)

AMP6 Review – River Crane & tributaries

Outfall Safari

- Network Resolution Team (NRT) - specialist crew introduced at the start of Year 3, AMP6.
- NRT investigates outfalls that score 5-9 during the assessment.
- NRT resolves single source pollutions and hand widespread issues over to EPT.
- Outfalls that score 10+ must be reported on the day and are managed by Pollution Desk.

Outfall Safari Investigations	
Completed	8
Ongoing	2
Handed over to SWOP	1
Total	**11**

Future Work

- 9 projects on Waiting List
- AMP7 programme to increase to 500 with a stretch to 750
- River Crane Outfall Safari 2020 – to follow up on results
- Emerging outfalls – prioritise accordingly
- Close collaboration with CVP/ZSL/EA in shaping AMP7 SWOP
- Further assistance with Citizen Crane sampling
- Raising awareness

connect right
Stop pollution

Thank you

Questions?

2019 Citizen Crane Forum

16th October 2019

Agenda

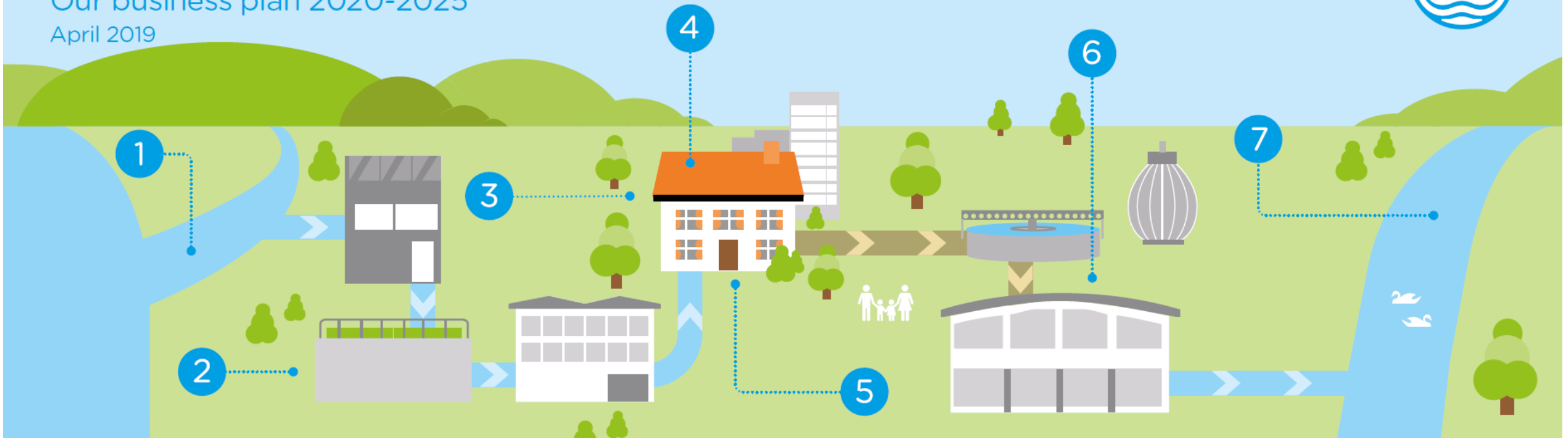
What will we cover today?

1. Ofwat Price Review – Update
2. Thames Water expectations
3. ‘Smarter Water Catchments’ initiative timeline
4. CVP collective objectives
5. Discussion
6. Questions

Our plan at a glance

Our business plan 2020-2025

April 2019



1 Enough water available for customers and the environment

2 A safe and dependable water service

3 Help customers use water and sewers wisely

4 Improved customer services with more support for those who need it

5 Playing our part in the community

6 A safe and dependable wastewater service

7 Protect and enhance the environment

Thames Water expectations

What do we want to get out of this initiative?

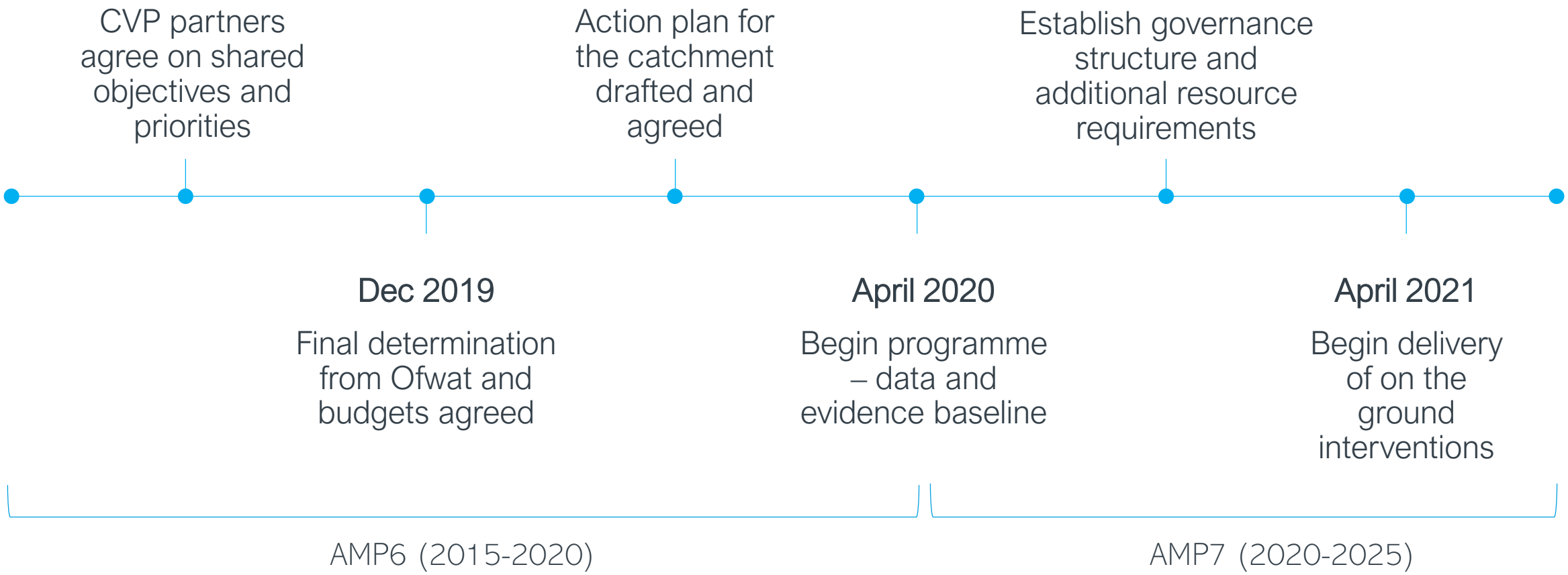
- Resilience and preparing for the future – an environment that can cope with future and ongoing pressures
- The most cost effective services for our customers – driving performance whilst keeping bills affordable.
- Challenge the way the sector currently manages the water environment.

What is included in the scope?

- Work within the parameters of the Catchment Based Approach – i.e. the CVP (of which we are **all** partners!)
- Co-create and co-deliver a 10 year action plan.
- Solutions must provide two or more benefits.
- They must be developed in collaboration with more than one partner.
- A financial penalty to Thames Water for failure to deliver.

‘Smarter Water Catchments’ timeline to delivery

Key milestones to consider



Crane Valley Partnership (CVP) objectives

Citizen Crane ambitions

- The River Crane achieves **Good Ecological Status**
- The river is more resilient – i.e. **stopping pollution at source** or creating sustainable, downstream solutions that intercept and remove pollution from the catchment's surface water drainage system
- The river and its surrounding flood plain are developed as a **linked network of habitats**, recognised as being of high value for wildlife and local people
- River habitats are created and **managed in a sustainable way** with a high degree of involvement from the local communities and other interested parties
- **Local communities**, numbering around half a million people in total, have an enhanced understanding of the value of the River Crane environment and their roles in managing and enhancing it

Thames Water ambitions

- Educating every school child on the value of water and their river environment.
- Reduce Per Capita Consumption through awareness raising/marketing to encourage the community to be more waterwise.
- Influence behaviour and attitudes towards sewer misuse and plastic pollution.
- Slowing the flow of water down within the catchment; whether this is at a property level through water butts, or through interventions in the environment e.g. SuDS
- Improve water quality in the river – tackling unknown sources of pollutions e.g. misconnections.
- Treatment capacity at Mogden STW does not need to be increased to cope with planned new development and forecast population growth in the near future.
- Future role out of the approach to other Catchment Partnerships across region.

Input from all partners into CVP strategy

'*Strategy for the Crane Catchment*' 2018-2028

- **Theme 1: Thinking Spatially**
  - Review membership of the Partnership.
  - Gather further information to gain a better understanding
  - Seek to proactively influence development
  - Put together a portfolio of future projects
  - Re-evaluate the All London Green Grid
- **Theme 2: Involving Communities**
  - Seeking funding for a community engagement and education officer.
  - Strengthen understanding of the communities that make up the catchment.
  - Discuss the need for a unified catchment 'brand'
  - Identify and establish links with education bodies
  - Identify and prioritise water-based issues that have their root causes elsewhere in the catchment,
- **Theme 3: Big Opportunities**
  - High level launch for this strategy
  - Employ a communications officer
  - Develop and produce a communication strategy
  - Measure and celebrate success
  - Put together a portfolio of future projects in the catchment.

Crane Valley Partnership

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What are our shared objectives?

Shared objectives for the River Crane environment

To be delivered through:

- Education and awareness raising
- Increased capacity and resilience of the Catchment Partnership
- Improved understanding of the state of the natural capital and route cause of issues
- Innovative approaches as well as funding streams

Discussion questions

1. Do you agree with these objectives? Are there any others which need to be included?

2. What multiple benefits might result by pursuing each objective? Are there any benefits that we have missed?

3. What research activities are needed to develop a complete evidence baseline to achieve these objectives?

4. What other sources of funding may complement this work?

Thank you