

south east water



# Ensuring Water Safety - Distribution network monitoring

Dr Neil Hudson


Head of Water Quality

South East Water

Dr John Gaffney

Global Business Development Manager

Evoqua Water Technologies



**We know that 2.1 million people rely on us to provide them with clean water every day.**

**Regulatory self monitoring regime provides baseline water quality assurance**

**Public confidence in water quality also plays a vital role in managing water safety**

# Managing Customer Expectations

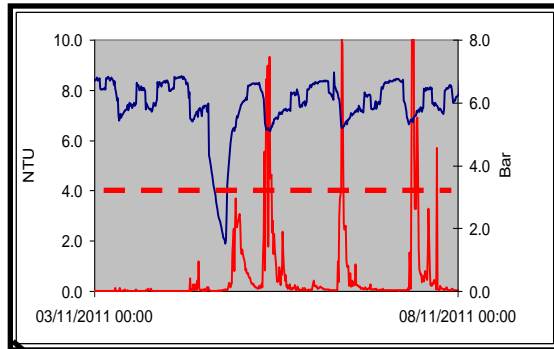
Measuring public perception:

- Customer contact numbers
- Service Incentive Mechanism (SIM)
- Outcome delivery incentives (ODIs)
  - Customer satisfaction – inc. appearance, taste and odour
  - Discolouration Contacts
- Reactive approach to customer contacts alone no longer fit for purpose
- Evoqua Hydraclam (Turbidity) and Chloroclam (Chlorine) used for in situ monitoring as part of a proactive management approach



# Hydraclam data informing flushing programme

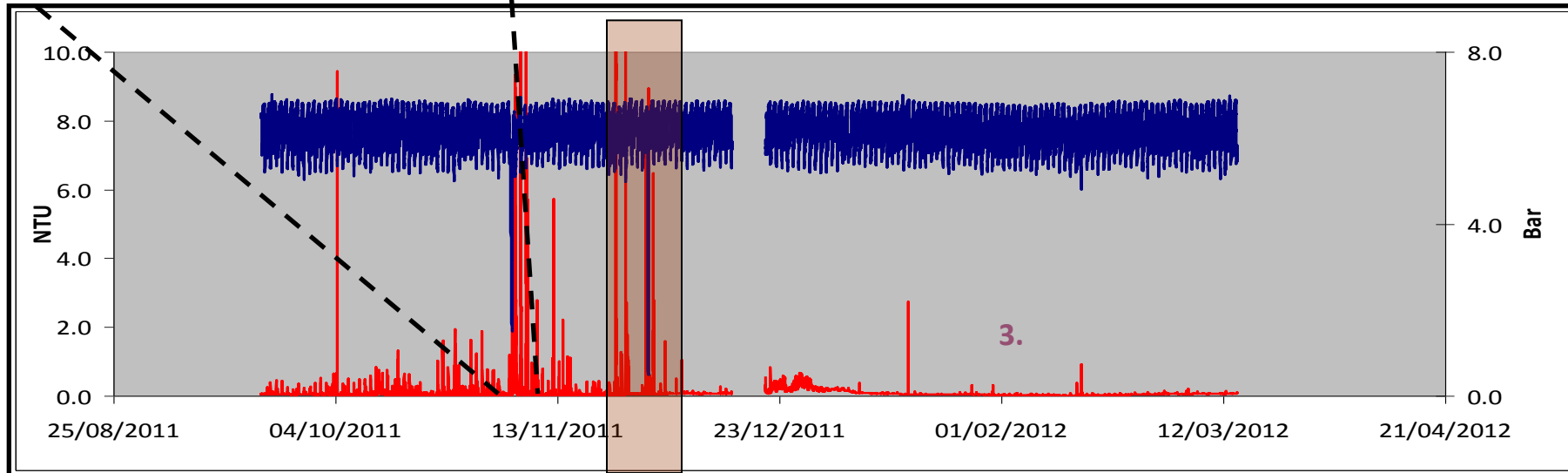
1.



1. Trunk main burst – high turbidity experienced leading to elevated customer contact numbers

2. System flushed to reduce discolouration risk

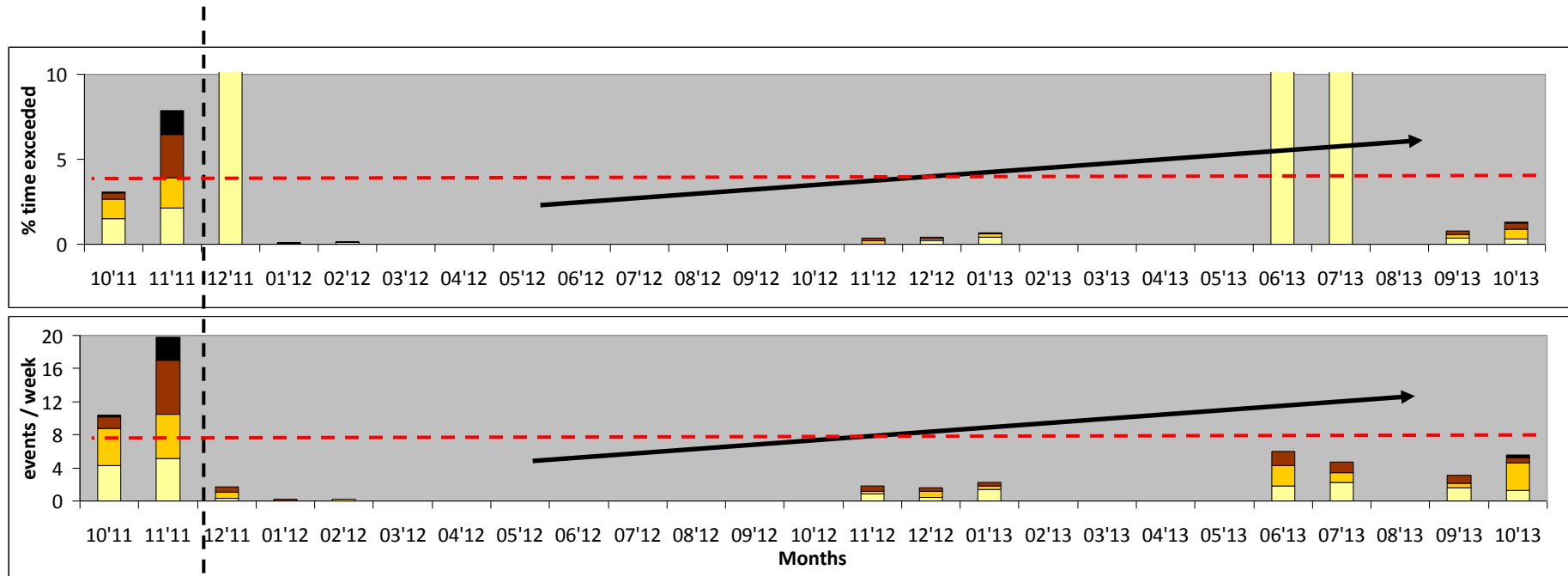
3. Significant improvement in network performance following flushing



2.

6 month monitoring period

# Critical control point monitoring over time



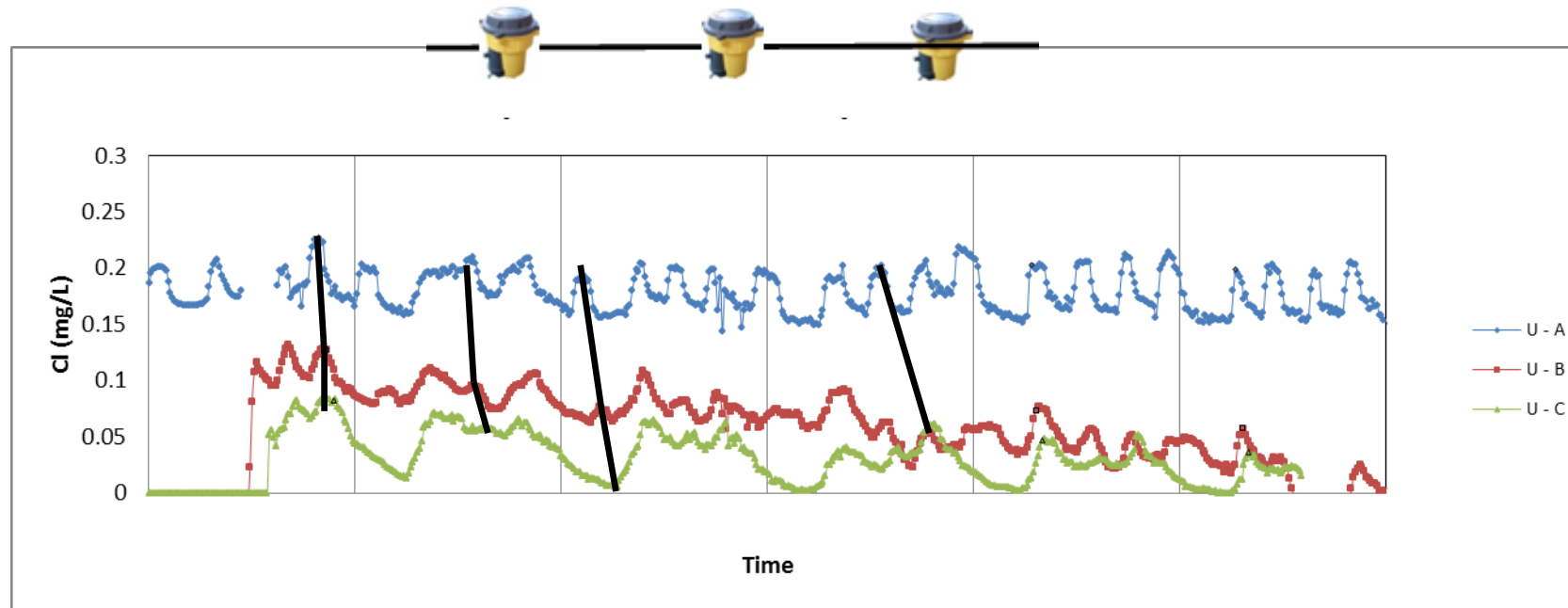
Flush

Evidence to suggest sediment recharging in the system over time at the critical monitoring points

← 2 year monitoring period →



# Chloroclam measurement of chlorine decay



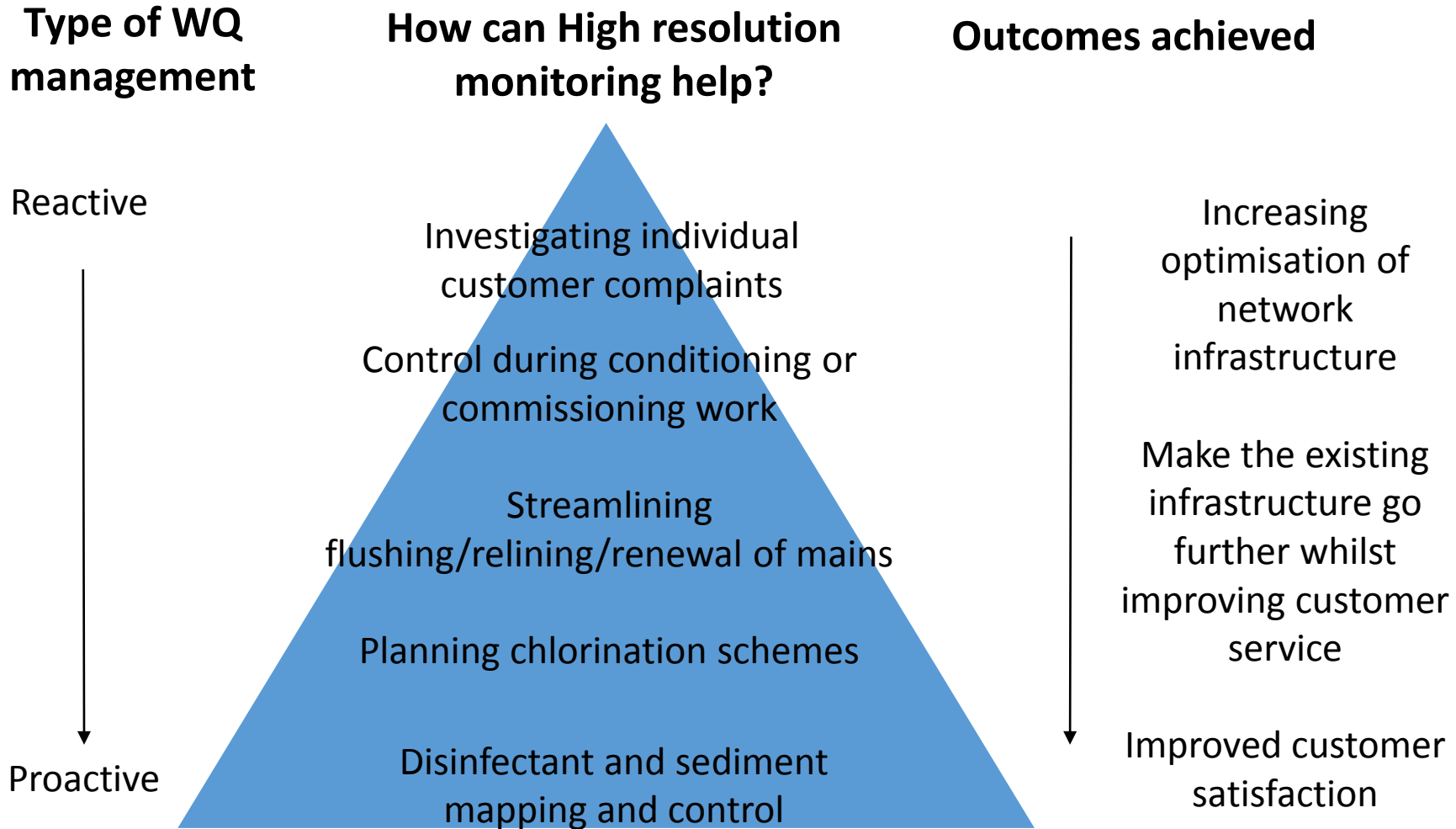
Track peaks to give (black lines on graph):

- transit time ( $t$ )
- and concentration change ( $\Delta C$ )

High spatiotemporal resolution record of Cl decay coefficient can

- Identify controls on Cl decay
- and comparison to ex-situ decay can allow in-situ factors to be identified

# Reactive to proactive WQ management



# Thank You

Any Questions?