

# **CATCHMENT MANAGEMENT OF WATER COLOUR & ITS TREATMENT :**

## Water colour in the Pennines

# CONTENTS

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- 1 Background to NWG interest in Water Colour
- 2 Why Catchment Management?
- 3 NWG Peatland projects
- 4 Monitoring

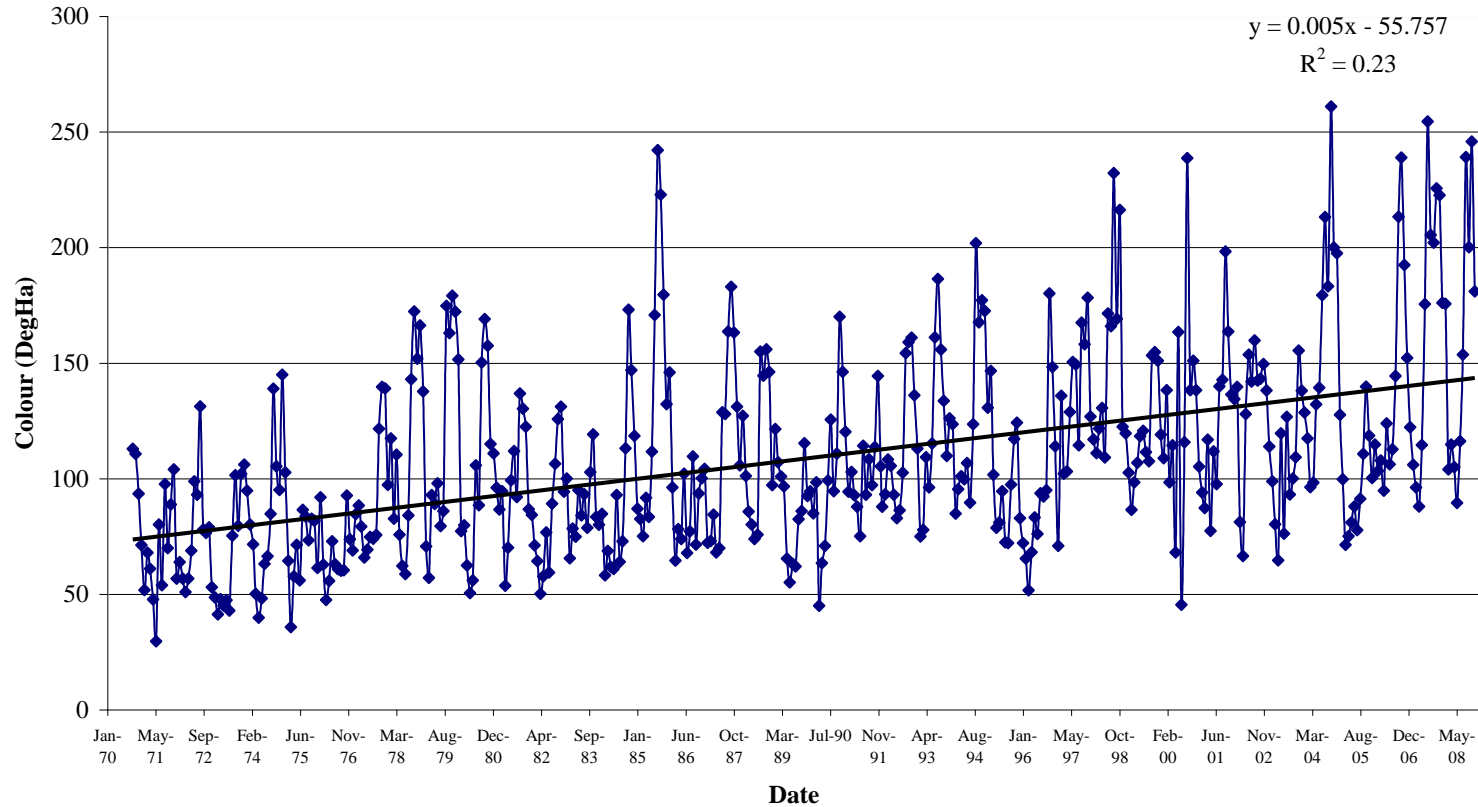
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# **BACKGROUND TO NWG INTEREST IN WATER COLOUR**

# BACKGROUND TO NWG INTEREST IN WATER COLOUR

## HISTORIC DATA

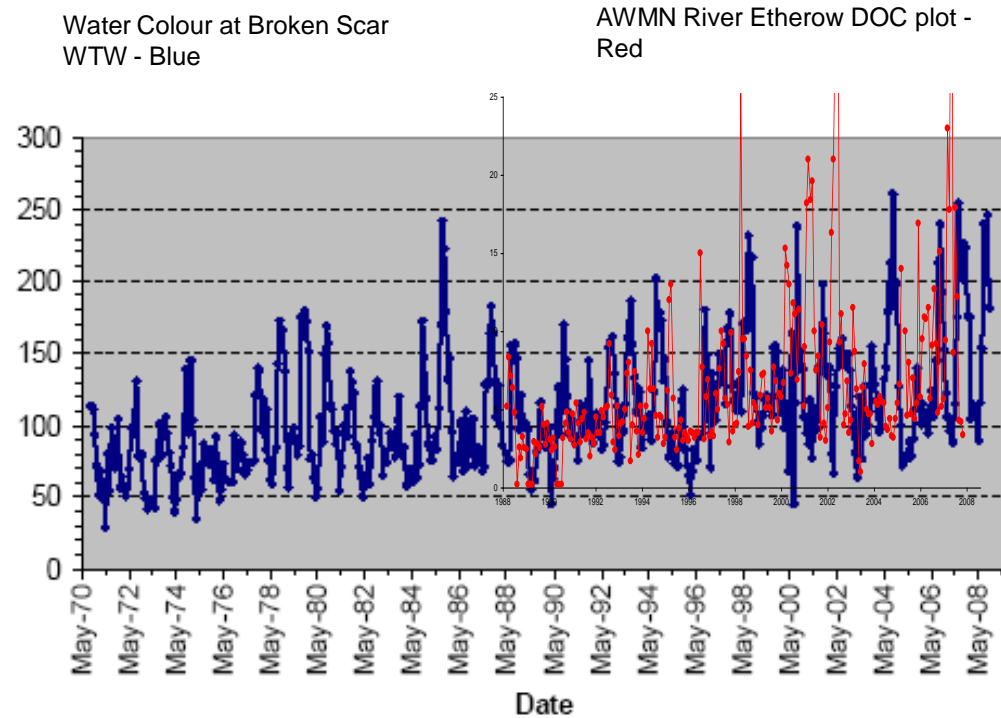
Broken Scar- Raw water colour on River Tees 1970-2008 from monthly average results



# BACKGROUND TO NWG INTEREST IN WATER COLOUR

## HISTORIC DATA

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CEH, 2009

## BACKGROUND TO NWG INTEREST IN WATER COLOUR

### OPERATIONAL IMPACTS

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- Impacts on coagulant dosing
- GAC impacts – organics
- Changes in dissolved organic matter & treatability?
- £££ Costs £££



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# WHY CATCHMENT MANAGEMENT?

# TEES CATCHMENT



**NORTHUMBRIAN**  
**WATER** *living water*

User : COOPR

Date : 15/03/2017 14:47:57

Map Sheet : NZ01

Title : Tees Catchment

Centre Point : 405537,518952

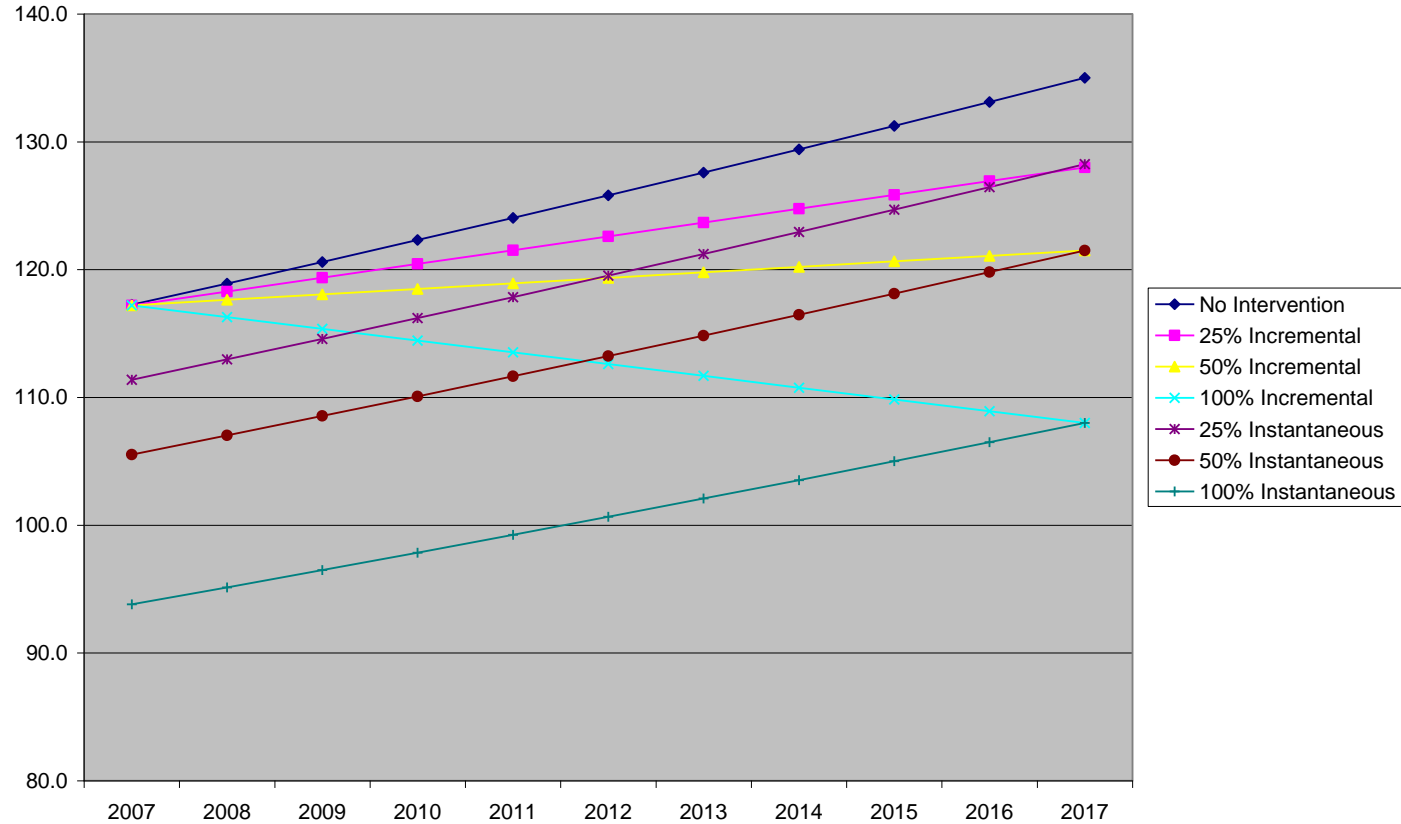
Paper / Scale : A3@1:183709

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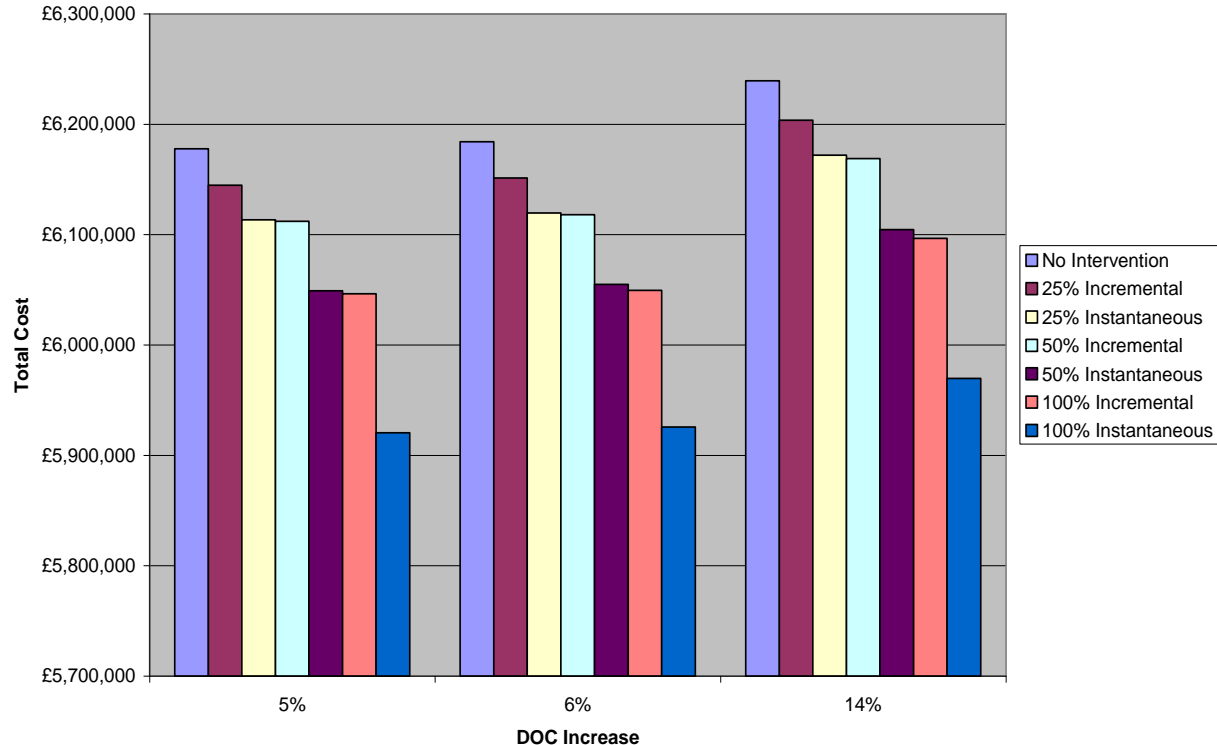
1 km



# ***PREDICTED COLOUR CHANGES AT BROKEN SCAR WITH VARIOUS PROPORTIONS OF GRIP BLOCKING (2007 – 2017)***

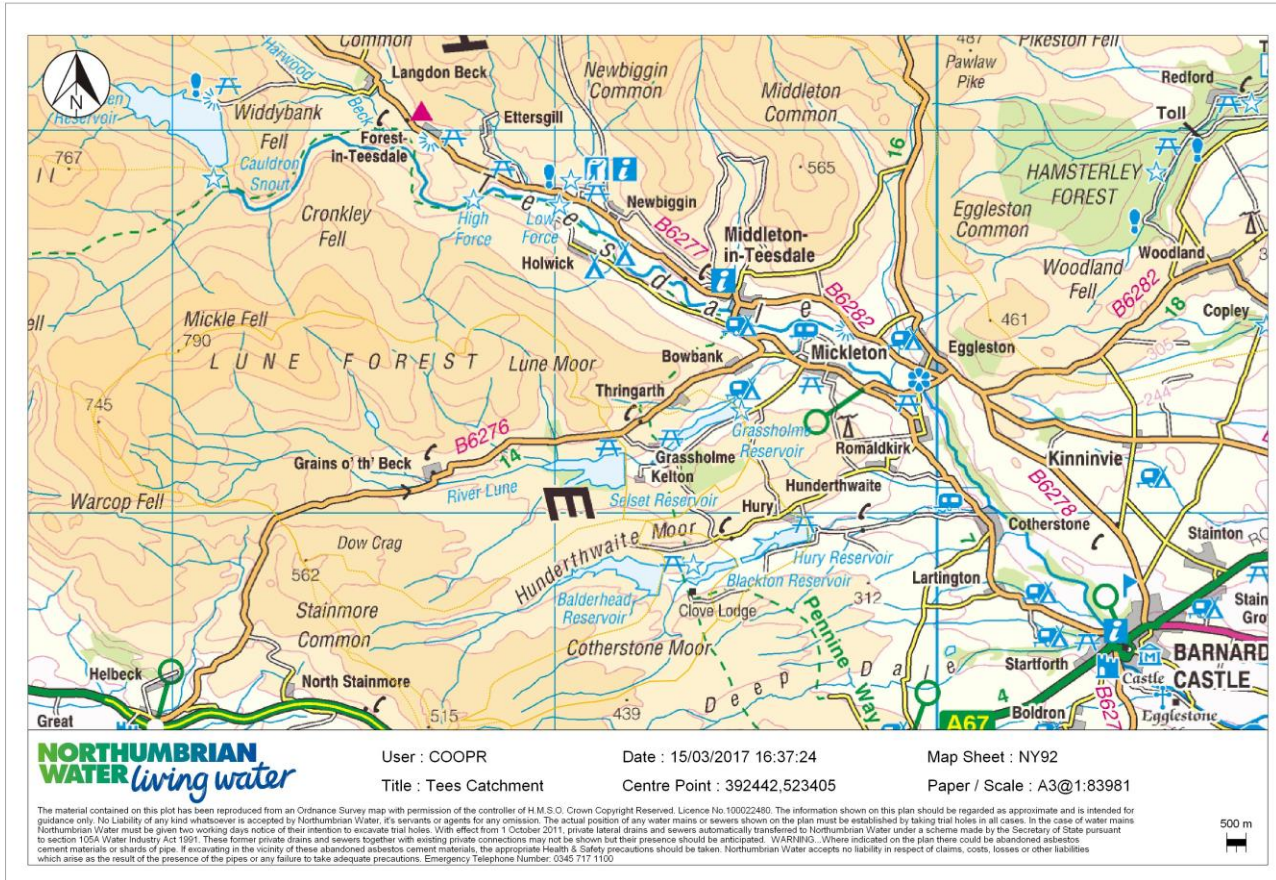


## TOTAL COAGULANT AND SLUDGE COSTS FOR 10 YEARS 2007-2017 UNDER EACH SCENARIO

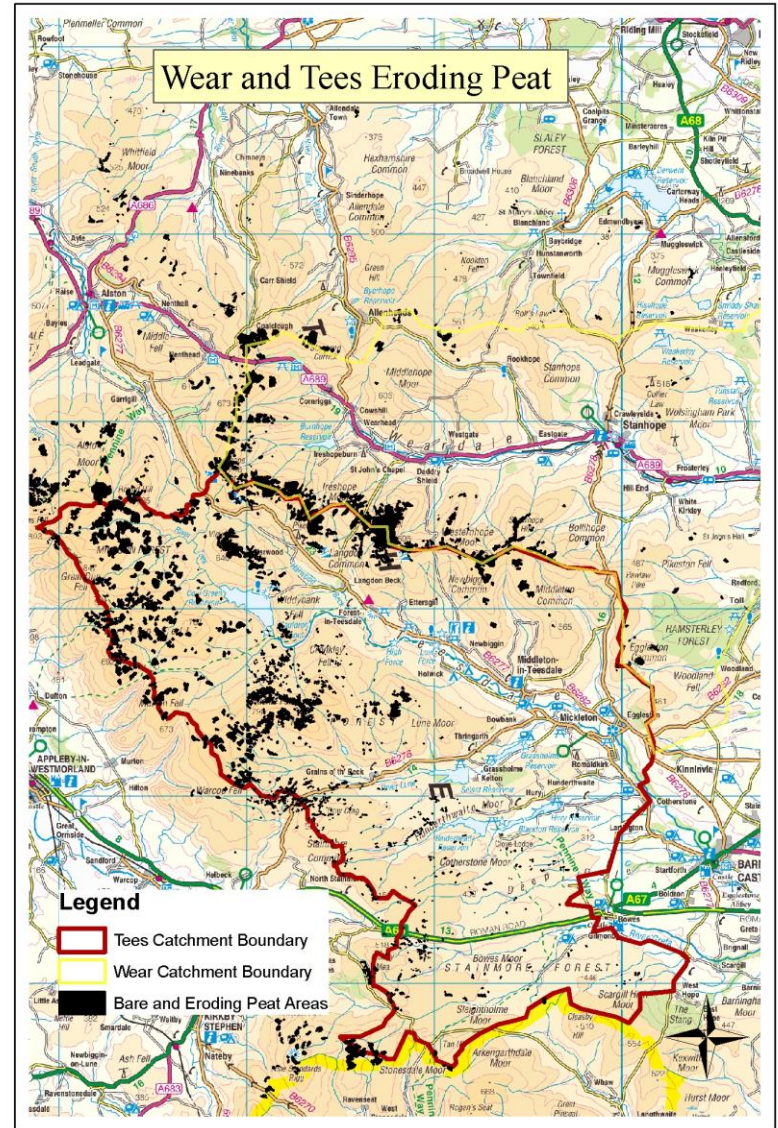


The graph shows changes in colour at Broken Scar under each grip blocking scenario. Similar trends are produced for 5% and 6% DOC increases, however these show a lower rate of colour increase

# NWG UPLAND CATCHMENTS – UPPER TEES



# WEAR & TEES ERODING PEAT MAP



# WHY CATCHMENT MANAGEMENT?

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# WHY CATCHMENT MANAGEMENT?

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- Land management engagement
- Maximising partnership funding
- Behavioural change

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# NWG PEATLAND PROJECTS



## NWG PEATLAND PROJECTS

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- Tees Water Colour project – 2005
- Peatscapes – Esmee Fairbairn, EA, NE, NWL, CDENT (County Durham Environment Trust) – 2007
- Killhope – NP AONB & Durham University
- Peat Programme 2015

# NWG PEATLAND PROJECTS – CHALLENGES

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- Sourcing parent materials
- Establishment



## NWG PEATLAND PROJECTS – CHALLENGES

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# NWG PEATLAND PROJECTS

## COIR ROLLS

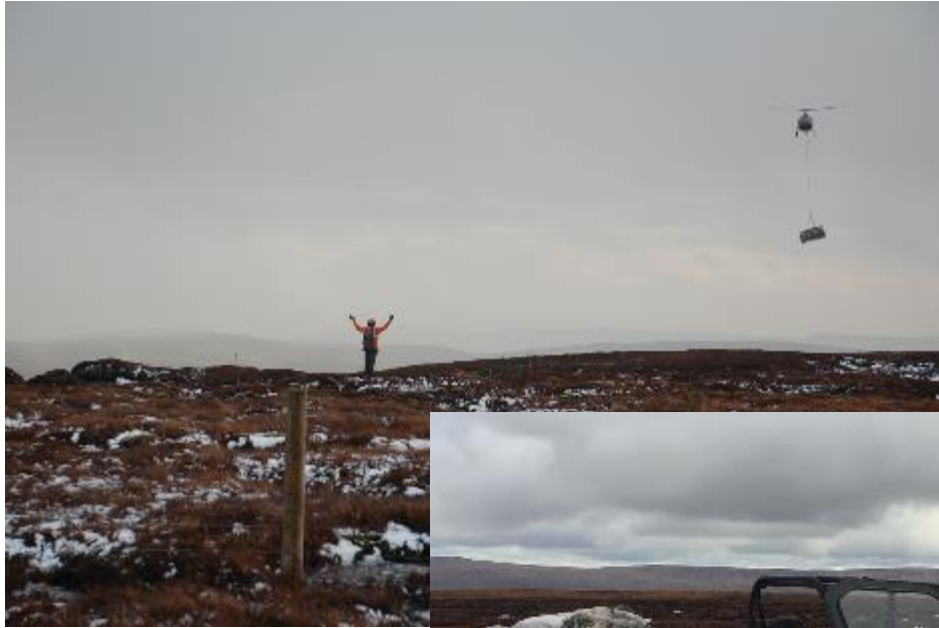
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# NWG PEATLAND PROJECTS

## COIR ROLLS – SUSTAINABLE?

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# NWG PEATLAND PROJECTS RE-PROFILING

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# RESEARCH & MONITORING

## WHY CATCHMENT MANAGEMENT MONITORING & RESEARCH - CHALLENGES

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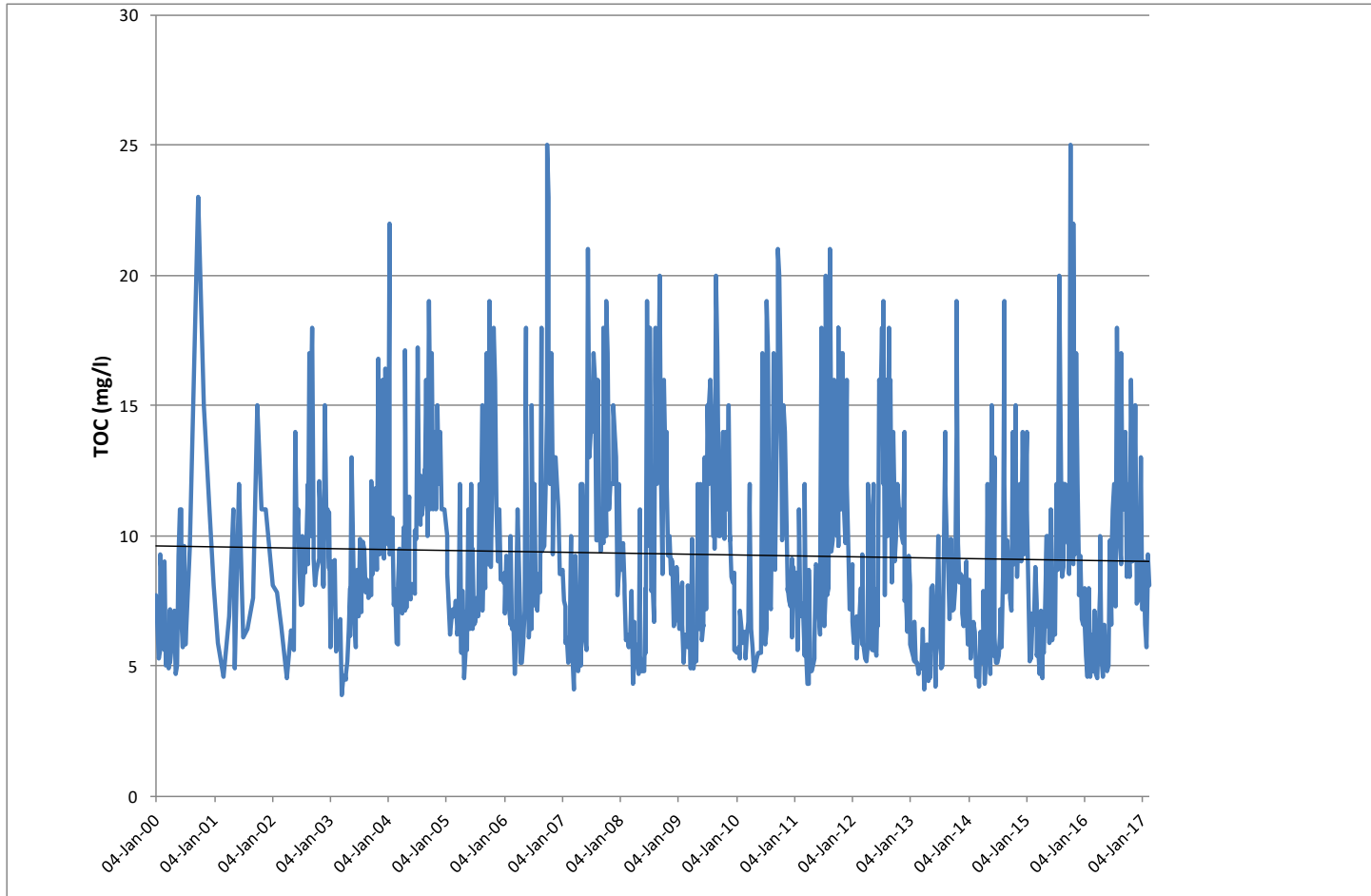
# WHY CATCHMENT MANAGEMENT MONITORING & RESEARCH

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# BACKGROUND TO NWG INTEREST IN WATER COLOUR

## TOTAL ORGANIC CARBON 2000-2017



## WHY CATCHMENT MANAGEMENT “DROIDS IN THE DALES”

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**THANK YOU**

The background features a gradient from dark blue on the left to light green on the right. A large, curved, teal-colored shape overlaps the bottom left. Several thin, parallel, curved lines in shades of green and teal sweep across the lower right portion of the image.