

# Severn Estuary Forum 2017

## David Martin and Lucy George

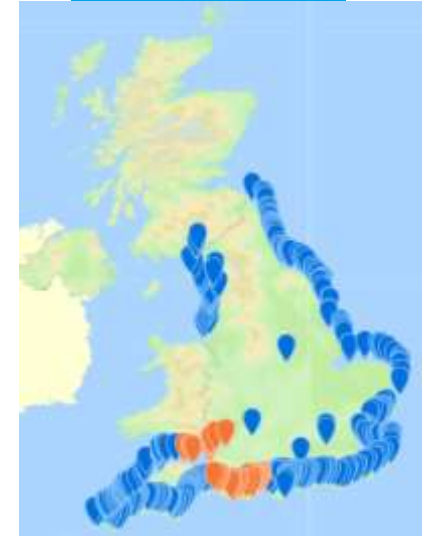
### Wessex Water

## Bathing Water improvements

### Agenda

- Introduction
- Burnham Jetty improvements
- Different approach

5 October 2017



**“To provide outstanding sustainable water and environmental services”**

**“We aim to protect and improve the environment and contribute to wider society”**

- **Wastewater statistics:**

- 400 sewage treatment works
- 30,000,000 m of sewers
- 1400 overflows
  - An overflow prevents flooding during heavy rainfall
  - Flow is passed through a screen and spills to the river

- **Area stats:**

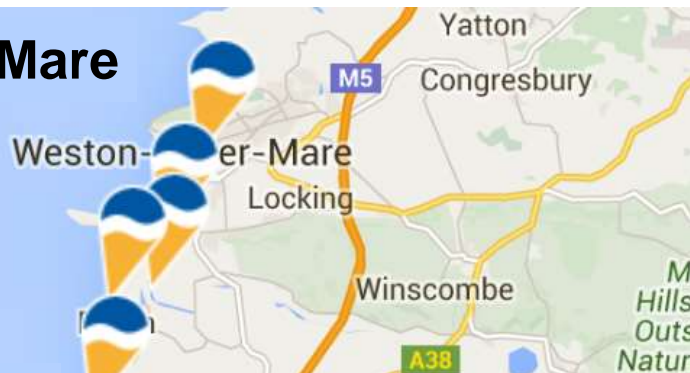
- 560 km of coastline
- 48 designated Bathing Waters
- 46 Bathing waters have Good or Excellent water quality
- 2 are poor or sufficient water quality:
  - Weston Super Mare = Sufficient
  - Burnham Jetty North = Poor

# Overflow performance - Coastwatch

[www.wessexwater.co.uk/coastwatch](http://www.wessexwater.co.uk/coastwatch)



## Weston super Mare



## Burnham Jetty



## Burnham

☑ Quality status 2016:Fail

There has not been a spill in the last 24 hours

### Summary

This bathing water can be affected by spills during storms or incidents

### Information

#### Spill history for the last 7 days

5/7	4/7	3/7	2/7	1/7	30/6	29/6
No	No	No	No	No	No	No

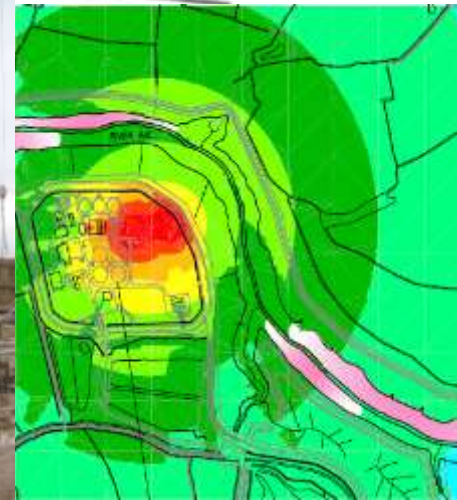
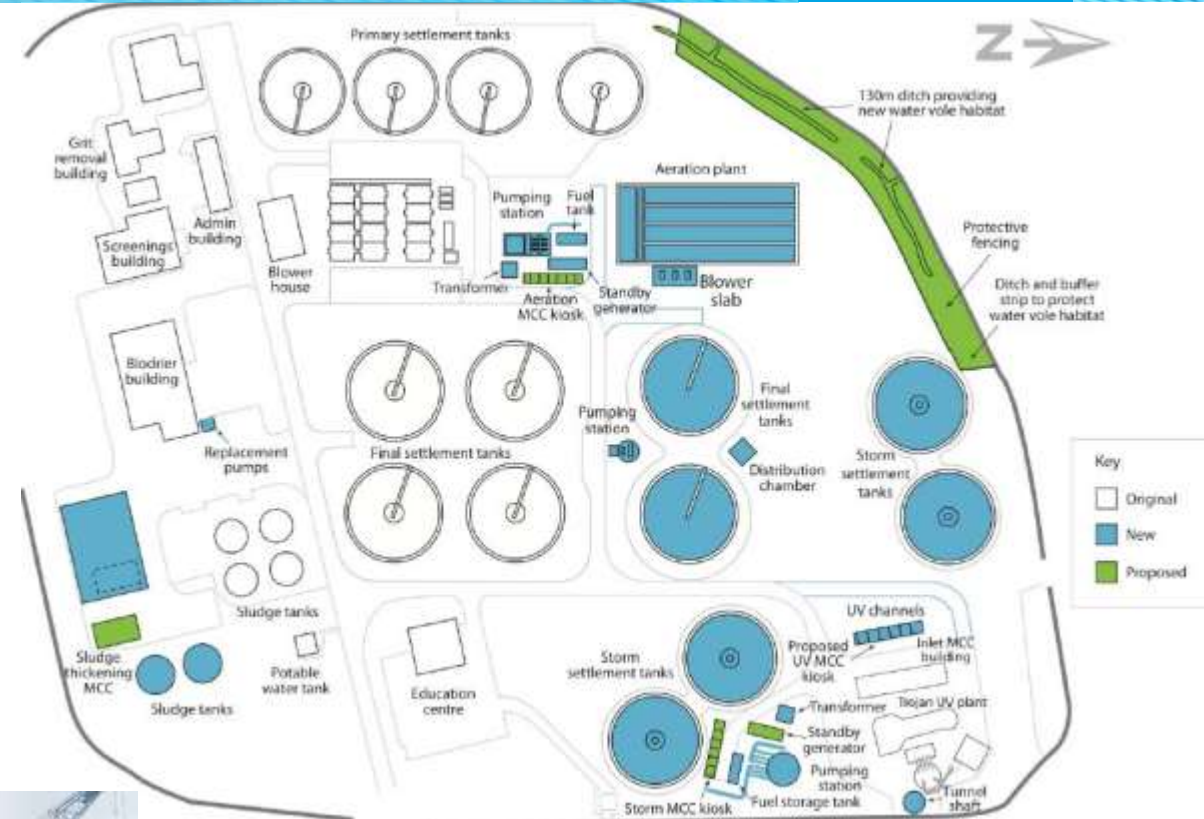
### Weather

The spill information we provide is based on our assets such as combined sewer overflows. If sewers serving nearby towns and villages become overwhelmed during times of intense rainfall, overflows can operate to prevent flooding of property, highways and open spaces.

### Tide times

# Weston-super-Mare bathing water improvements

- £30m, completed 2015
- More Aeration lanes
- More Final settlement tanks
- New Tertiary treatment (UV)
- 21,000 m<sup>3</sup> storage
- Superpond partnership scheme



# Burnham Jetty bathing water improvements

- Poor bathing water quality under revised standards
- WW committed to half overflow spills
- £39m investment between 2015 to 2018

 Environment Agency **Bathing Water Quality**  
Find Get the data Glossary Help Web widgets EA open datasets

## 2016 Bathing Water Profile for Burnham Jetty North

Somerset, England

Current water quality classification is **Poor**, based on samples taken from 2012 through to 2015.

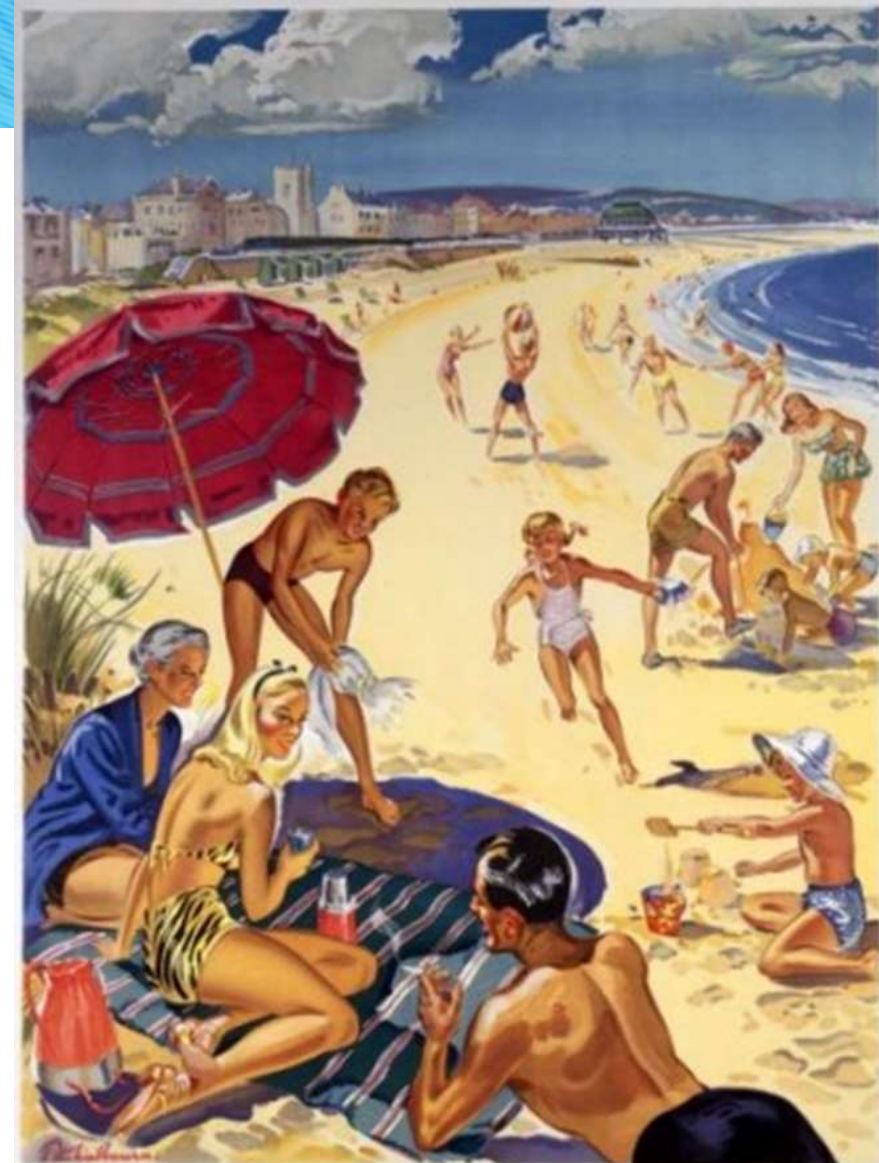
### Water quality warnings:

 Bathing at this location is not advised.

 Poor bathing water quality  
 Advice against bathing

### About

Burnham Jetty North is within Bridgwater Bay, part of the Somerset coast overlooking the Bristol Channel. It is a sand and mud beach resort, approximately 2.2 kilometres wide and backed by a sea defence wall. The beach has a shallow slope and a very large tidal range (11 metres). At low tide, the sea lies up to half a kilometre from the beach, inaccessible on foot due to the dangerous intertidal mudflats. The rivers Brue and Parrett both flow into the Bay just south of the bathing water. Bridgwater Bay is a National Nature Reserve; an important habitat for



## BURNHAM-ON-SEA

THE FAVOURITE FAMILY RESORT

Illustrated guide from, The Publicity Officer, 46 High St.

TRAVEL BY TRAIN

For Burnham-on-Sea travel to Highbridge West

BRITISH RAILWAYS

# Burnham Jetty





## Bristol Road, Bridgwater Sewage Pumping Station

- Tight site
  - A38
  - River flood bund
  - Residential and business property
- 3000 m<sup>3</sup> storage
- Shaft – 15 m diameter and 23 m deep
- Innovative design
- 165 l/s to treatment





## Difficult ground conditions

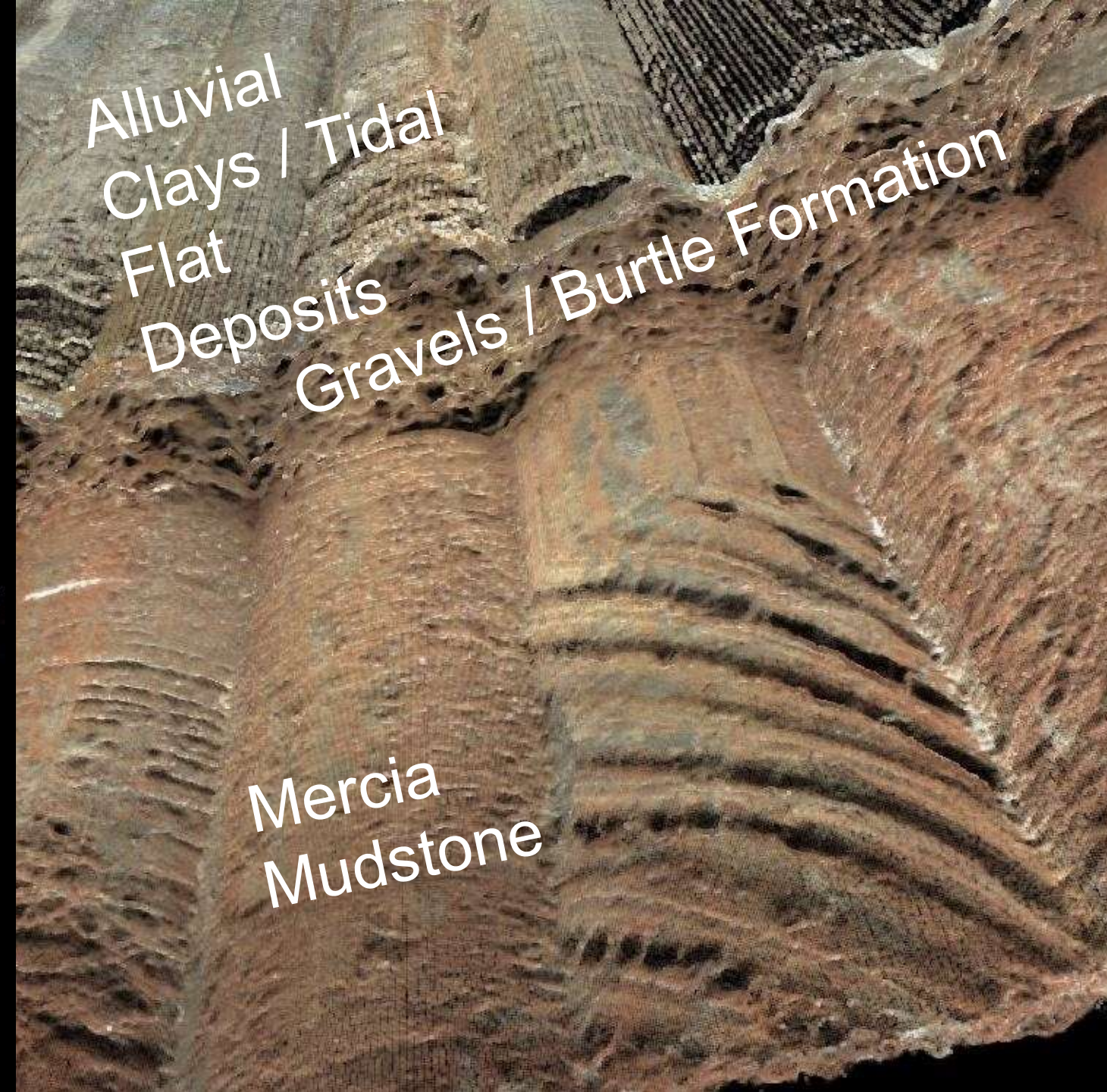
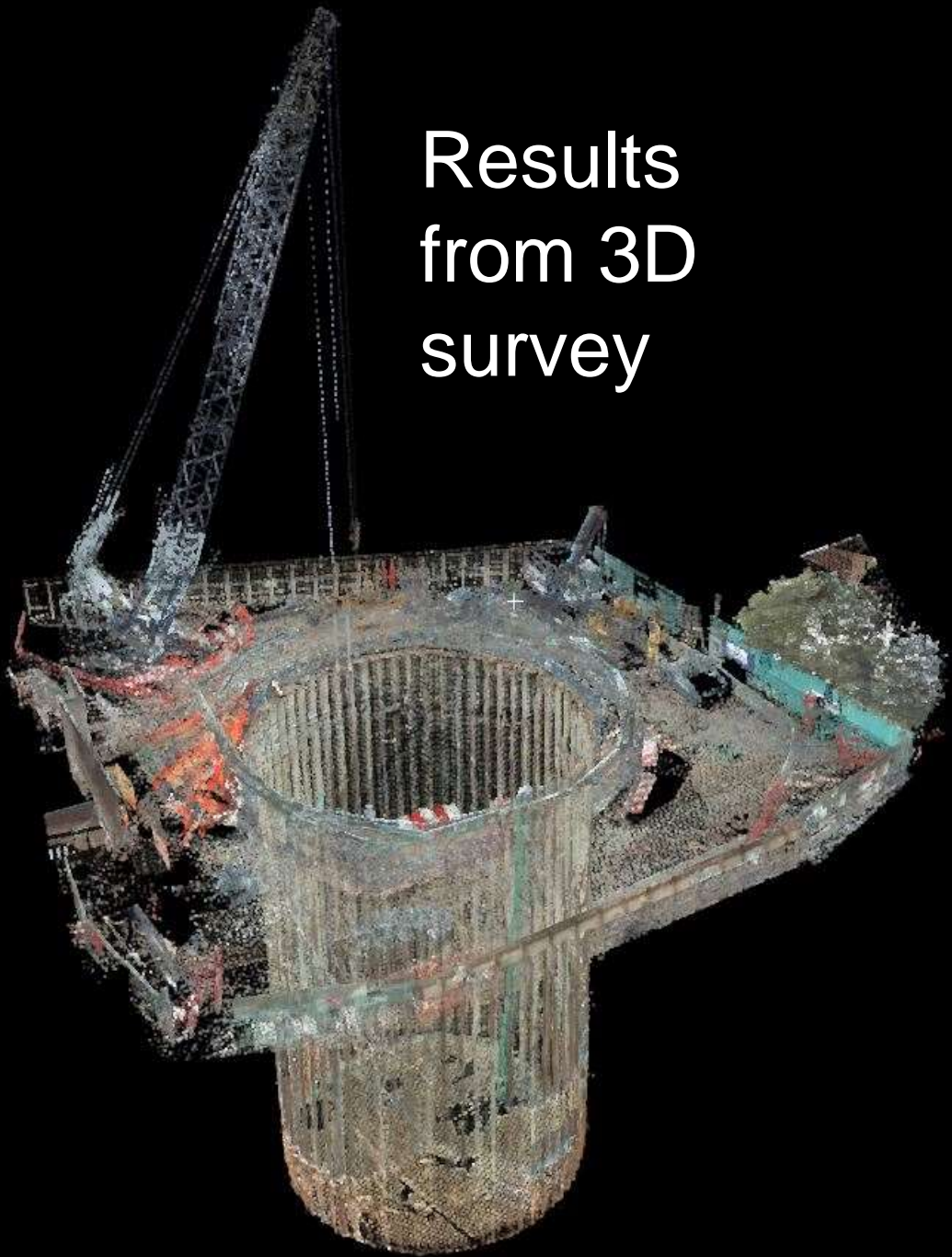
- Poor ground
- High tidal water table
- Mercia mudstone  
~19 m deep
- Deepest unsupported secant piled shaft constructed in the UK



## Difficult site conditions

- Existing pump station to remain operational
- Biggest piling rig in the UK
- Shaft construction 1/3 of site

Results  
from 3D  
survey



Alluvial  
Clays / Tidal  
Flat  
Deposits  
Gravels / Burtle Formation

Mercia  
Mudstone



*Lewis*  
a YTL company



# Burnham Jetty overflow improvements

- Where we are providing storage we are future proofing the design

Scheme	Spills prior to works	Works	Spills post works
Bristol Road	21	3000 m <sup>3</sup>	1
Colley Lane	19	5000 m <sup>3</sup>	1
Sloway Lane	3	1200 m <sup>3</sup>	1
West Quay	16	2500 m <sup>3</sup>	1

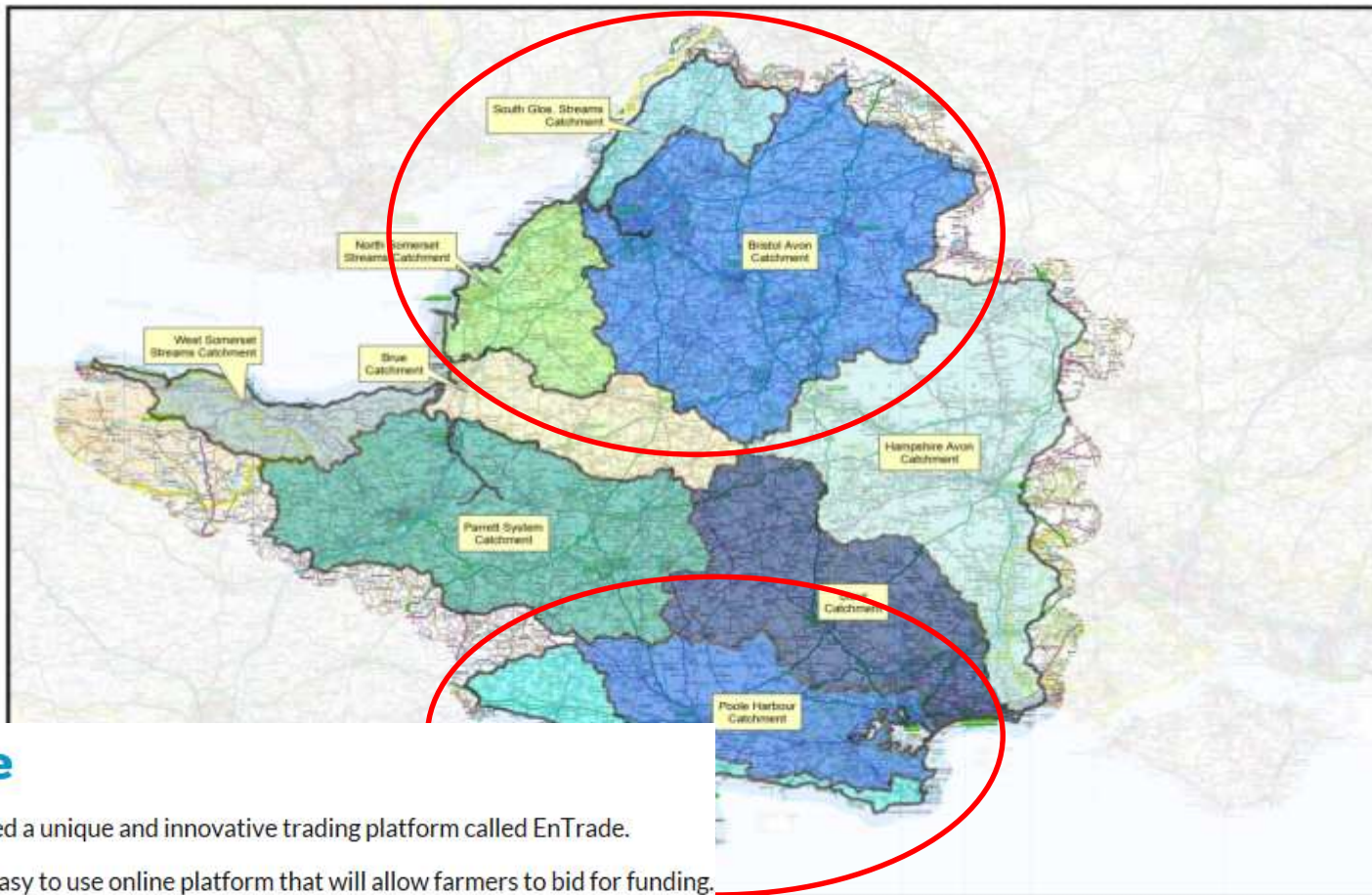
\*Spills per bathing season

- Other improvements include:
  - Combining 2 treatment works and installing tertiary UV treatment
  - Increasing pass forward flows
  - UV disinfection of overflow



## Bristol Avon catchment

### Testing ground for: catchment permitting and catchment partnership

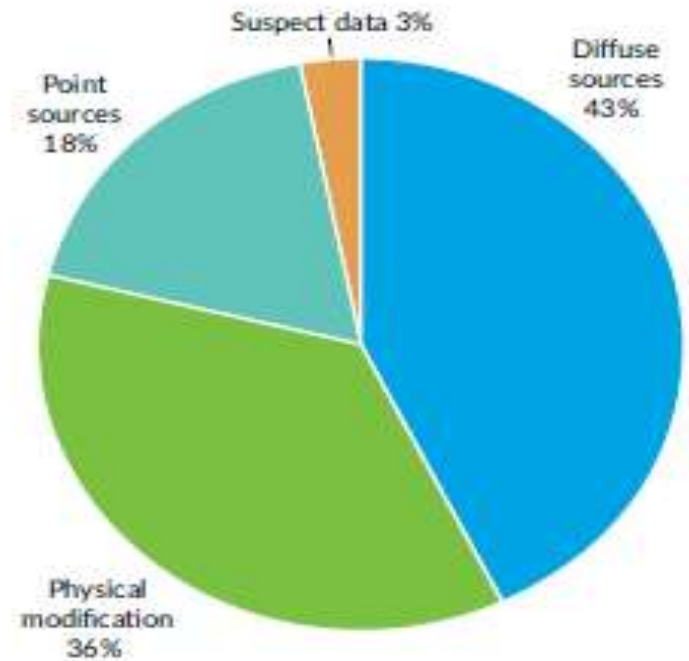


### EnTrade

We have developed a unique and innovative trading platform called EnTrade.

This provides an easy to use online platform that will allow farmers to bid for funding.

### Reasons for not achieving WFD status Bristol Avon

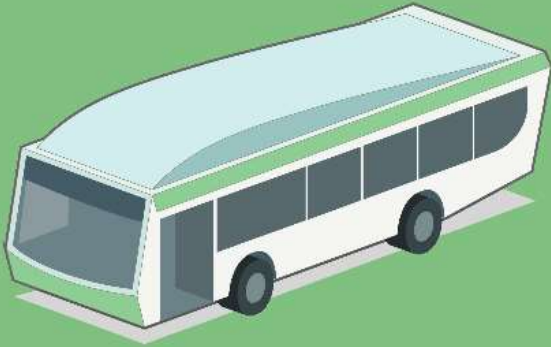


Source: EA Catchment information pack

# Bristol Avon catchment partnership







MAKE SURE WASTE ISN'T WASTED

# Biomethane



ABOUT

GAS TO GRID

GREEN GAS CERTIFICATES

ENVIRONMENTAL BENEFITS

## About

Our facility in Avonmouth is a state of the art anaerobic digestion plant with depackaging capability. Renewable energy, in the form of electricity and **methane** is generated from the biogas produced in the digestion process, and the solid digestate is used as sustainable agricultural **biofertiliser**.

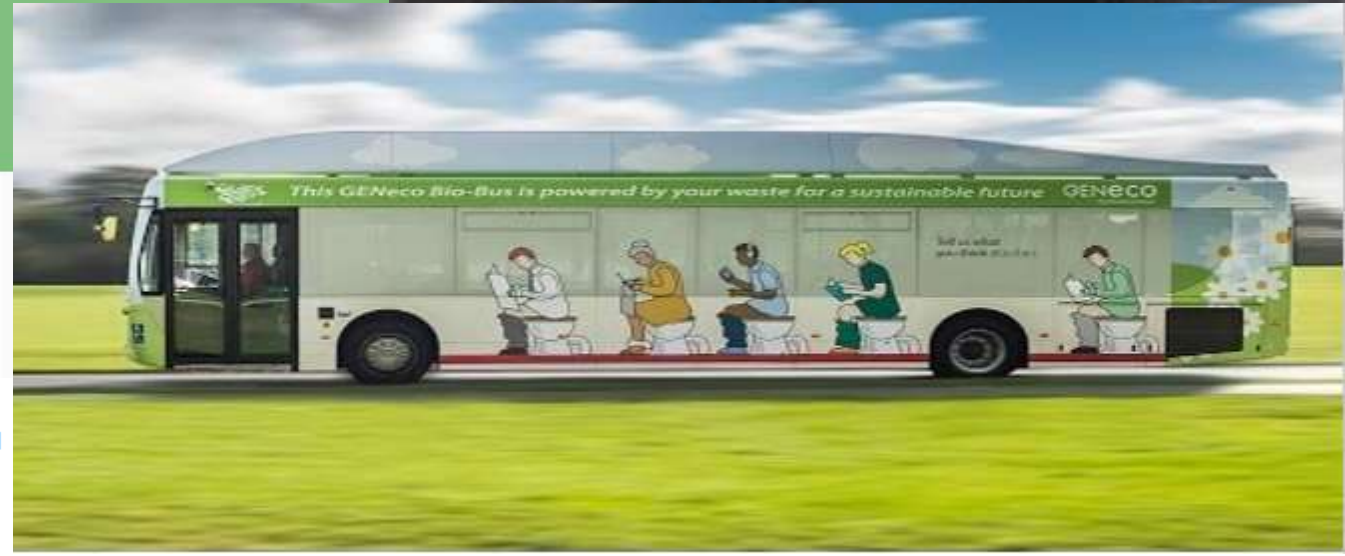
## Energy

- Gas to Grid

## BioBug and Bus

- Biofertiliser

**Waste isn't wasted**



Thank you



*For leisure and pleasure choose..*

# **BURNHAM-ON-SEA**

SOMERSET

ILLUSTRATED GUIDE FROM PUBLICITY OFFICER, VICTORIA STREET

BY TRAIN to Highbridge for Burnham-on-Sea Station  
Frequent Bus Services to Burnham, Burrow and Bress



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