

A person wearing a full-body yellow hazmat suit, including a hood, goggles, and a respirator mask, is sitting on a white surfboard and riding a wave. The person is wearing black gloves. In the background, several other people in similar yellow hazmat suits are visible in the ocean under a clear blue sky.

“CITIZEN SCIENCE” & SEWAGE POLLUTION

Mike Owens, Hayling Sewage Watch

Michael Dryland - DrylandProductions.com/hazmat-surfing

What's my problem?

England Blue Flag Award beaches

Alum Chine Bournemouth

Beachlands - Hayling Island

Blackpool Sands

Branksome Chine Poole

Breakwater Beach

Brightlingsea

Brighton Beach



The **Blue Flag beach award** is widely considered the gold standard for beaches. Awarded by the Foundation for Environmental Education, the Blue Flag is internationally recognised.

Whilst most people are aware that Blue Flag certification **guarantees** the quality of bathing water this is only part of the criteria.

What exactly is Citizen Science?

- Active participation in hypothesis-led science?
- Gathering data / observations / sampling?
- Accessing data to aid understanding?



Why is Citizen Science Required?



**Environment
Agency**

Information sources for Citizen Scientists

- Direct Sampling
- Publicly Available Data
- Environmental Information Regulations 2004 (EIR)
- Freedom of Information Act 2000

Information for Citizen Scientists - Sampling



COST: circa £25 per sample

Information for Citizen Scientists - Sampling



AVAILABILITY

Information for Citizen Scientists - Sampling



PROCESS

Information for Citizen Scientists - Sampling



SAFETY

Outcomes of Environmental Sampling

Bathing Water Directive (UK Law)

- EXCELLENT Classification requires consistently < 250 cfu/100ml (E-Coli) *
- SUFFICIENT Classification requires consistently < 500 cfu/100ml (E-Coli) **

Bacti Analysis Report

Mayling Island

Sampled By: Client
Date Received: 17 August 2020
Submitted By: Client

				Results		
Sampled Date + Time	Sample Details	Sample Type	Method Units Analysis	10.11 cfu/100ml Total Coliforms (Presumptive)	10.11 cfu/100ml E-coli (Presumptive)	10.08 cfu/100ml Faecal Streptococci (Presumptive)
17/08/2020 1200	Inn On The Beach	Microb-Water - Raw		940	890	240

* Based on 95-percentile

** Based on 90-percentile

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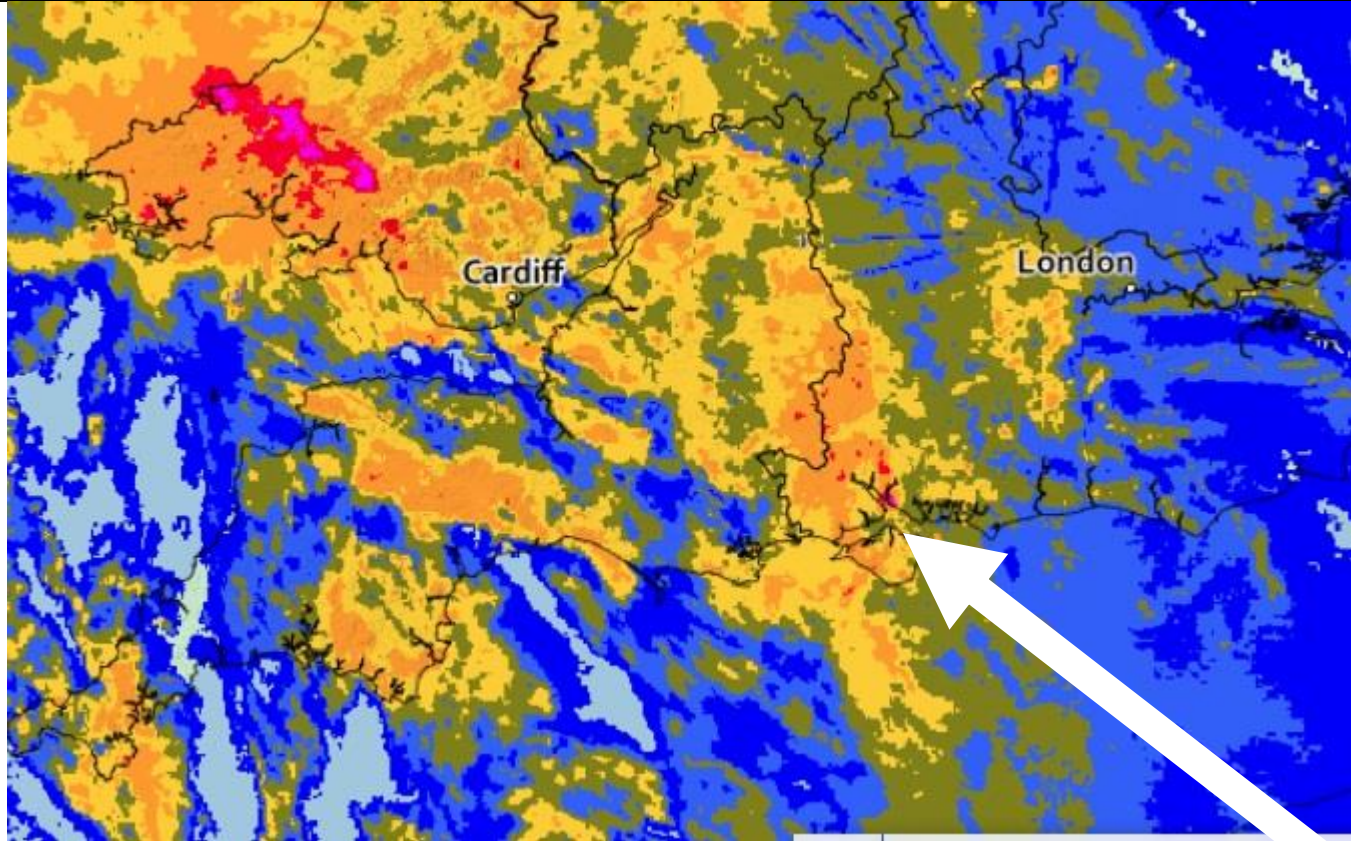
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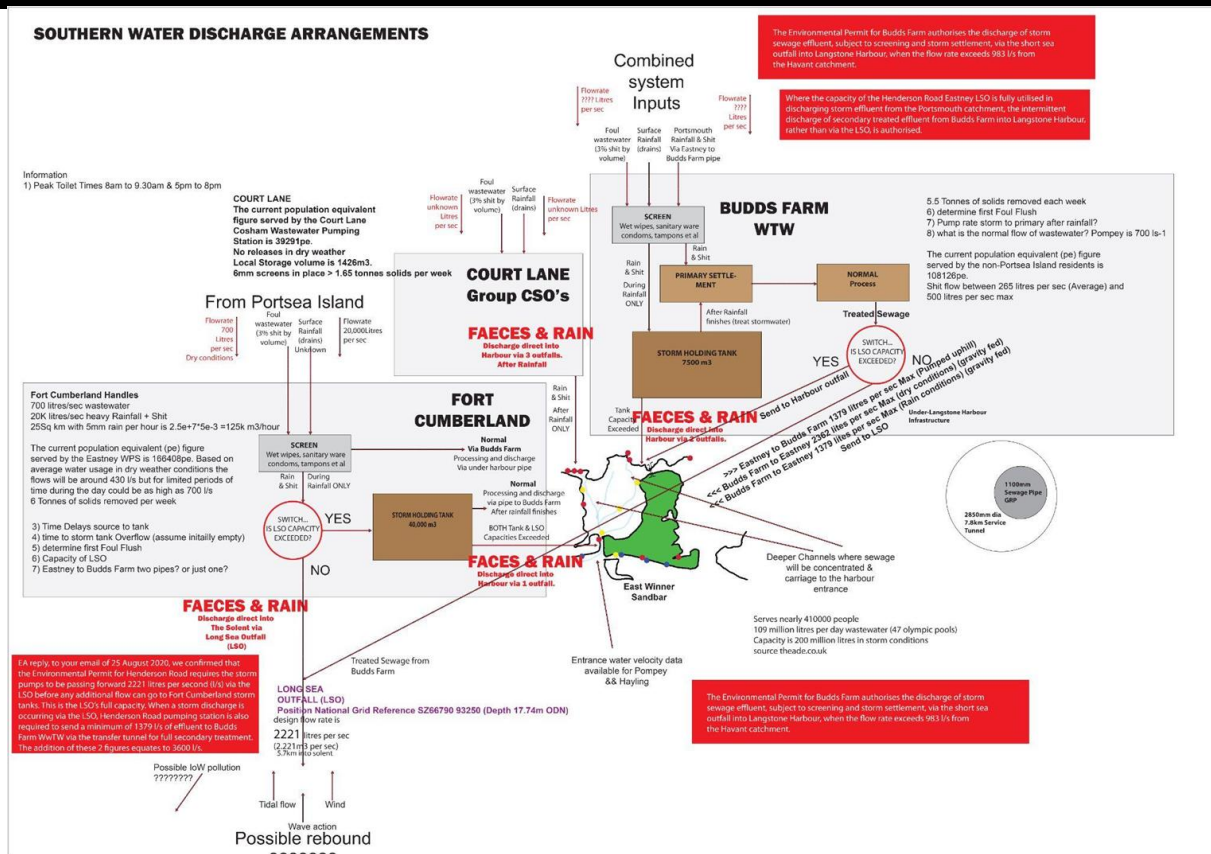
Information for Citizen Scientists - Rainfall

UK Met
Office



Environmental Information Regulations 2004 (EIR)

Freedom of Information



Information for Citizen Scientists - FOI

Latest Water Quality Results

Environmental
Information
Regulations
2004 (EIR)
&
Freedom of
Information

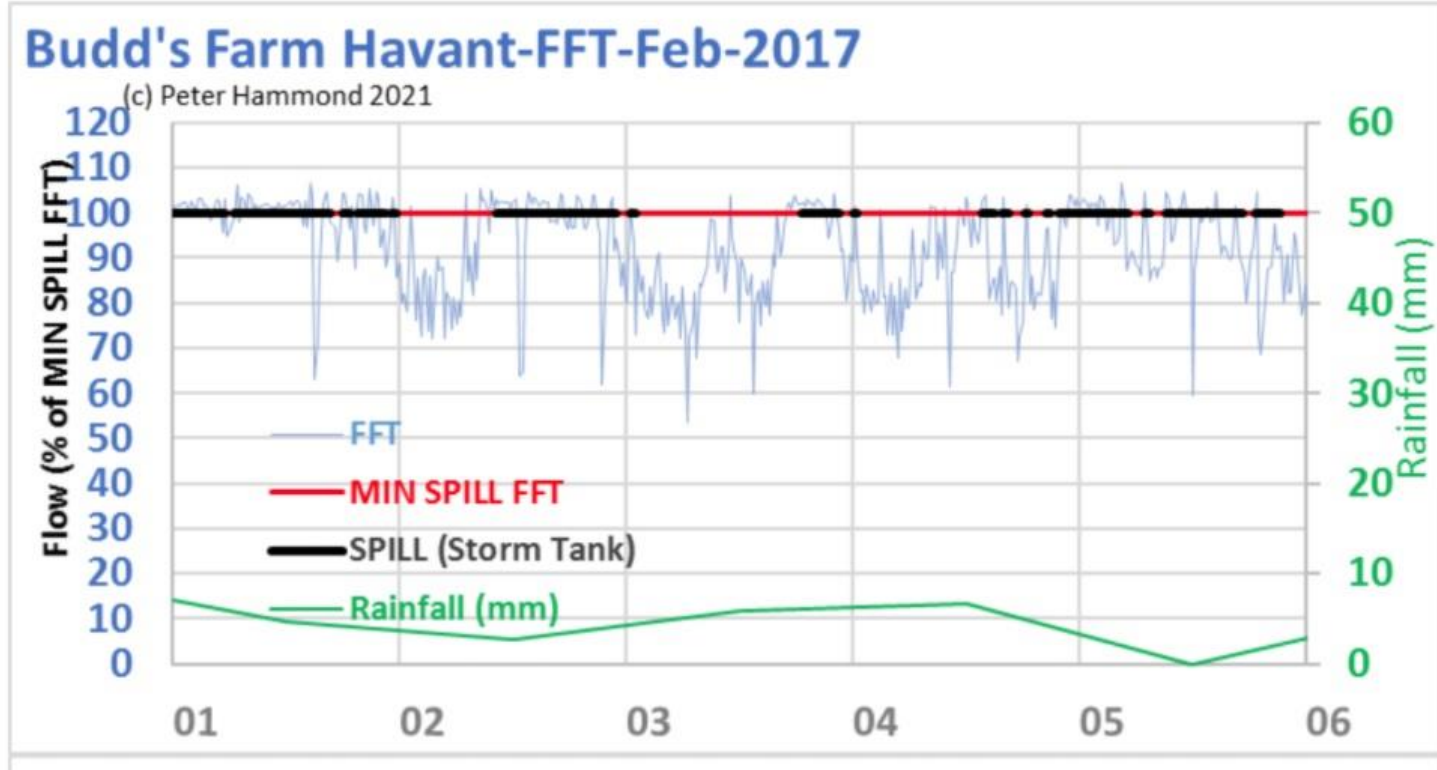
Chichester Harbour Water Quality Sampling Results				Sample Date 13 January 2021
Sample Site	Time	E.Coli (/100ml)	Enterococci (/100ml)	Compliant with minimum requirements of the EU BWD? (E.Coli ≤500cfu and Intestinal Enterococci ≤185cfu)
Thorney Island Sailing Club Slipway	09:04	<10	60	YES
Cobnor Dinghy Park Slipway	09:54	40	110	YES
Bosham Quay Quayside	10:01	20	40	YES
Dell Quay Quayside	09:16	120	400	NO
Chichester Yacht Club Slipway	09:05	10	70	YES
Itchenor Jetty	08:46	40	70	YES
North of Dell Quay Mid-channel near WWT discharge point	09:21	100	300	NO
Chichester Marina Beacon Mid-channel	09:01	40	70	YES

Information for Citizen Scientists - EIR

NUMBERS OF UNPERMITTED SPILLS WASP BELIEVES HAVE OCCURRED AT 44 STWS (2017 – 2021)

COMPANY	STW	TOTAL	2017	2018	2019	2020	2021	PE	Watercourse(s) involved
SOUTHERN WATER	Bosham	26	2	9	0	15	NDA	3,637	Chichester Harbour
	Budd's Farm	39	11	16	2	10	NDA	374,241	Langstone Harbour
	Chichester	50	1	23	10	16	NDA	49,143	Chichester Harbour
	Thornham	67	16	21	17	13	NDA	21,457	Chichester Harbour
	Lavant	147	7	83	57		NDA	2,617	Lavant*/Chichester Harbour
	Fittleworth	26		5	7	14	NDA	720	Rother* (W Sussex)
	Fullerton	???				?	NDA	65,329	Test*
	King's Somborne	21		8	1	12	NDA	2,293	Test*
	Romsey	27		3	12	12	NDA	1,907	Test*
	Shoreham	114	18	23	33	40	NDA	56,524	English Channel
	South Harting	130	12	36	53	29	NDA	2,920	Rother* (W Sussex)
	Wickham	72	6	15	7	44	NDA	2,442	Meon*
	Bradwinch	22			4	20	NDA	2,038	Culm

Information for Citizen Scientists - EIR



Results of Citizen science - Discharge Monitoring



Results of Citizen science - Real Time E-Coli Monitoring



Results of Citizen science - Awareness

Massive Public & Press Interest
MP's, Minister, CEO Forums
Water Company Test Funding
Water Company Investment



Environment Audit Committee & Citizen Science

“We recommend that the Environment Agency explore how best to support the contribution of citizen science to environmental regulation...”



House of Commons
Environmental Audit Committee

Water quality in rivers

Fourth Report of Session 2021–22

Report, together with formal minutes relating to the report

*Ordered by the House of Commons
to be printed 5 January 2022*

Visual content is so important



A Recent Initiative

- INVESTIGATE
- INFORM
- IMPROVE



**CLEAN HARBOURS
PARTNERSHIP**

www.cleanharbourspartnership.co.uk