



Department
for Environment
Food & Rural Affairs

Reducing Storm Sewage Discharges



Tom Davies

Senior Policy Advisor (Wastewater and Storm Overflows)

Department for Environment, Food & Rural Affairs

Outline of the talk

- Introduction- Why are we so concerned with Storm Sewage Discharges?
- The Environment Act 2021: Key Provisions for Storm Overflows
- Storm Overflows Taskforce- Overview & Products
- Storm Overflows Evidence Project- Elliot Gill, Technical Director, Stantec
- Timeline of Next Steps

Introduction- Why are we concerned by Storm Overflows?

- Environmental impact and increasing pressures
- Increasing visibility of Storm Overflow operation
- Public perception
- Amenity Value



The Environment Act 2021

The Environment Act puts into law the following provisions:

- A duty on Water Companies to progressively reduce the harm caused by Storm Sewage Discharges
 - A duty on government to publish a discharge reduction plan by September 2022 and report to Parliament on progress in implementing the plan.
 - Transparency Provisions- Annual Publication of Event Duration Monitoring, up stream and down stream water quality monitoring and near real-time monitoring of water company assets.
 - A statutory duty for water companies to create Drainage and Wastewater Management Plans with a 25 Year Horizon.
 - A commitment to review the case for implementation of Schedule 3 of the Drainage and Wastewater Management Act 2010 (in reference to Storm Overflows)
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What do we mean by a 'Progressive Reduction' in harm

- Ministers have been clear the current frequency and duration of discharges is unacceptable.
- The clause was drafted to ensure the duty endured beyond the current Price Review period
- This means that reductions in harm from Storm Overflows will be a fundamental principle for future planning cycles to comply with the duty.
- The Price Review process will be used to set the parameters of the duty in terms that will encourage the right investment from the water industry.

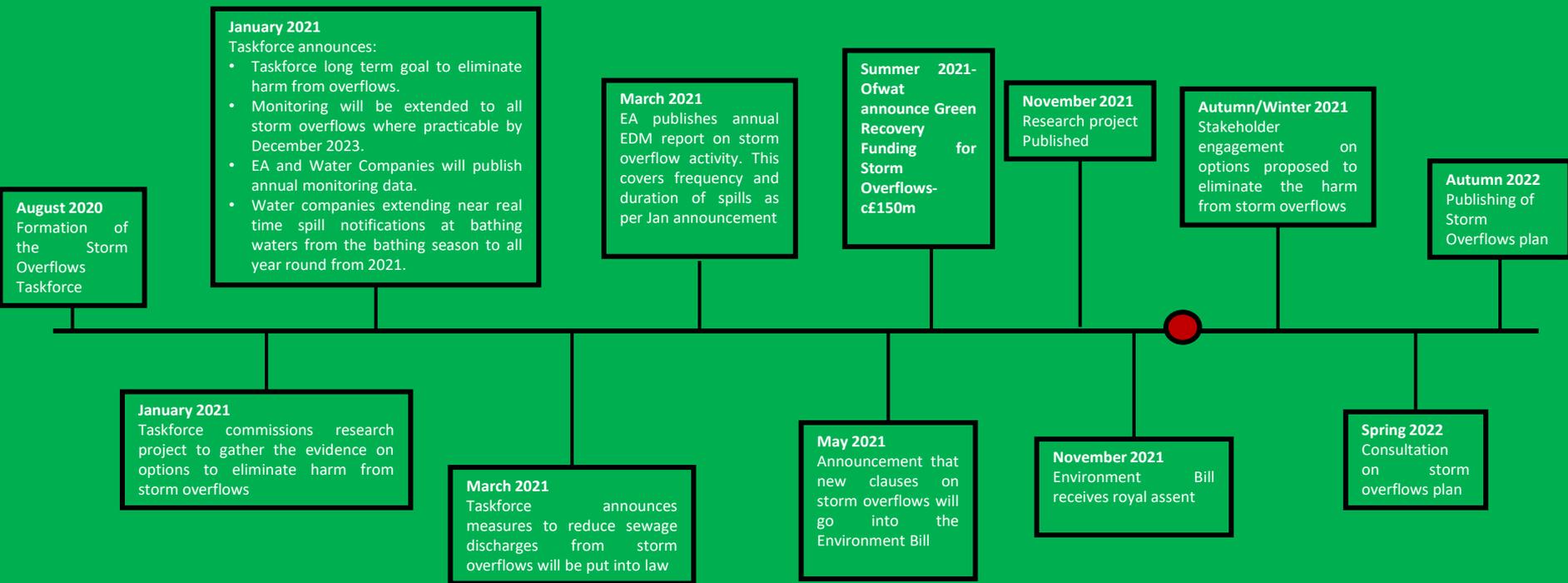
Increasing Transparency

- Annual Publication of EDM Data
- Near Real Time Monitoring (within 1 hour) of a Storm Overflow Event
- Upstream and downstream monitoring of Water Quality impact



Storm Overflows Taskforce Overview

Purpose: To develop proposals to significantly reduce the frequency and impact of sewage discharges from storm overflows with a range of ambitions from reducing spills to phasing out overflows.



Task & Finish Groups

Data Transparency:

- Agree implementation of Environment Act Data Transparency Provisions
- Agree format of data for annual publication.
- Develop KPI for the published data on storm overflows to make data from overflows comparable year to year.
- Provide information at company level of planned improvements

Legislation

- Review legislative options: what is the problem to be solved, what is currently possible/ covered by existing legislation, what different legislative options will achieve
- Develop a prioritised list of legislative options based on impact (in reducing costs) of reducing spills

Storm Overflows Evidence Project

- Commissioned by the Taskforce, the evidence project has a number of aims:
 - To assess different policy options in terms of setting a limit to be achieved;
 - To assess the costs, benefits and feasibility of different policies;
 - To assess implementation options and the costs/benefits of these.





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Storm Overflows Evidence Project

www.gov.uk/government/publications/storm-overflows-evidence-project

Storm Overflow Evidence
Project

Final Report



Prepared for:
Water UK

Prepared by:
Elliot Gill
Bruce Horton
James Gilbert
Steve Riisnaes
Emma Partridge (Blue Marble)

November 2021



Elliot Gill  Stantec
Technical Director

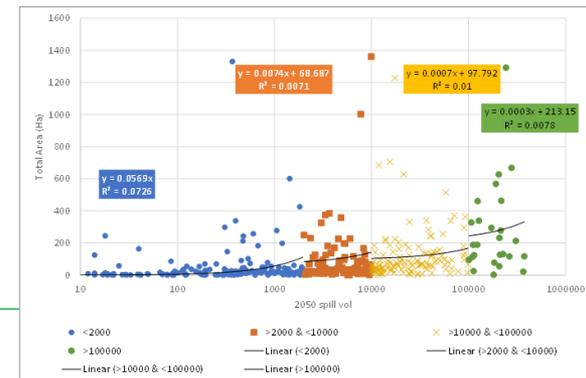
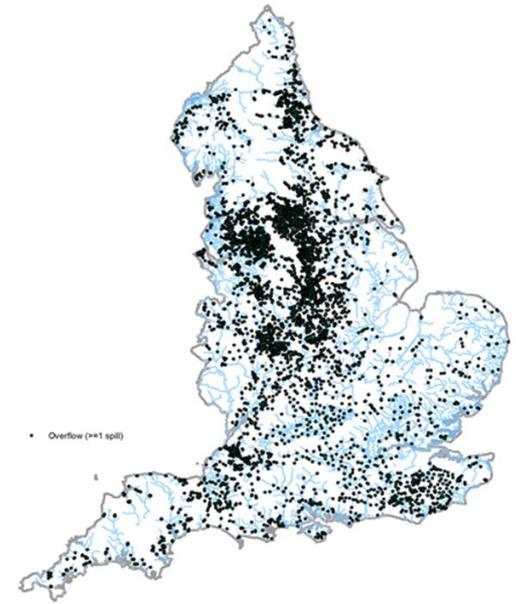
Data

WaSC hydraulic modelling results –
spill frequency and volume for
>9,000 overflows (today & 2050s)

Waterbody catchment
boundaries & river flow
statistics (adjusted for 2050s)

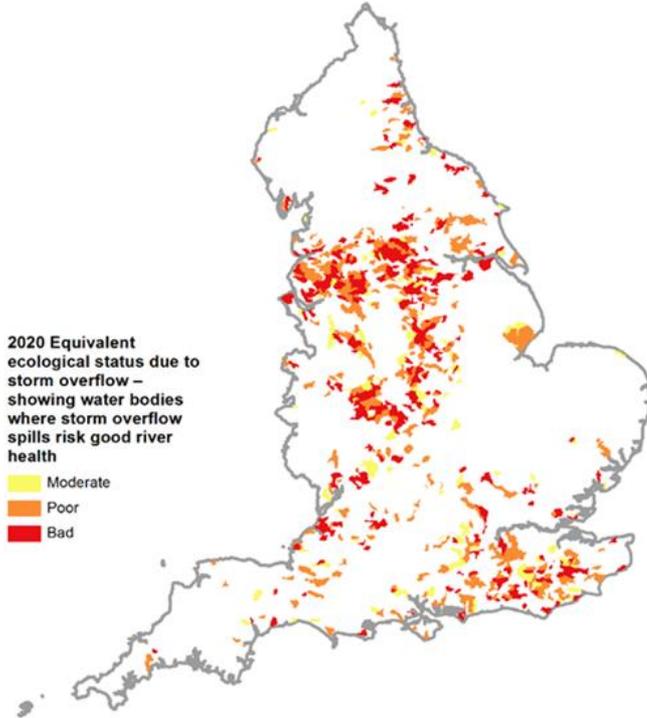
RNAG (reasons not achieving good)

Algorithms linking network
storage and SuDS to reductions
in spill volume and frequency

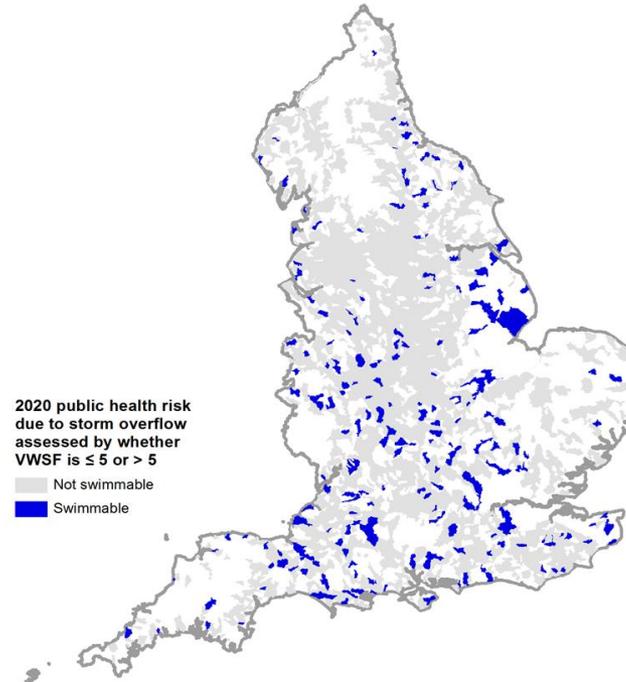


Harm

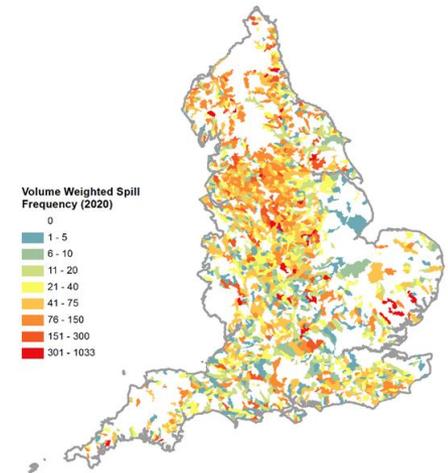
River health



Public health



Social impact



Policies

Universal annual average spill frequency limits:
40, 20, 10, 5, 0, 40-10

Prioritised annual average spill frequency limits:
5 (bathing rivers), 10 (sensitive waters), 10 (RNAG)

Scenario W



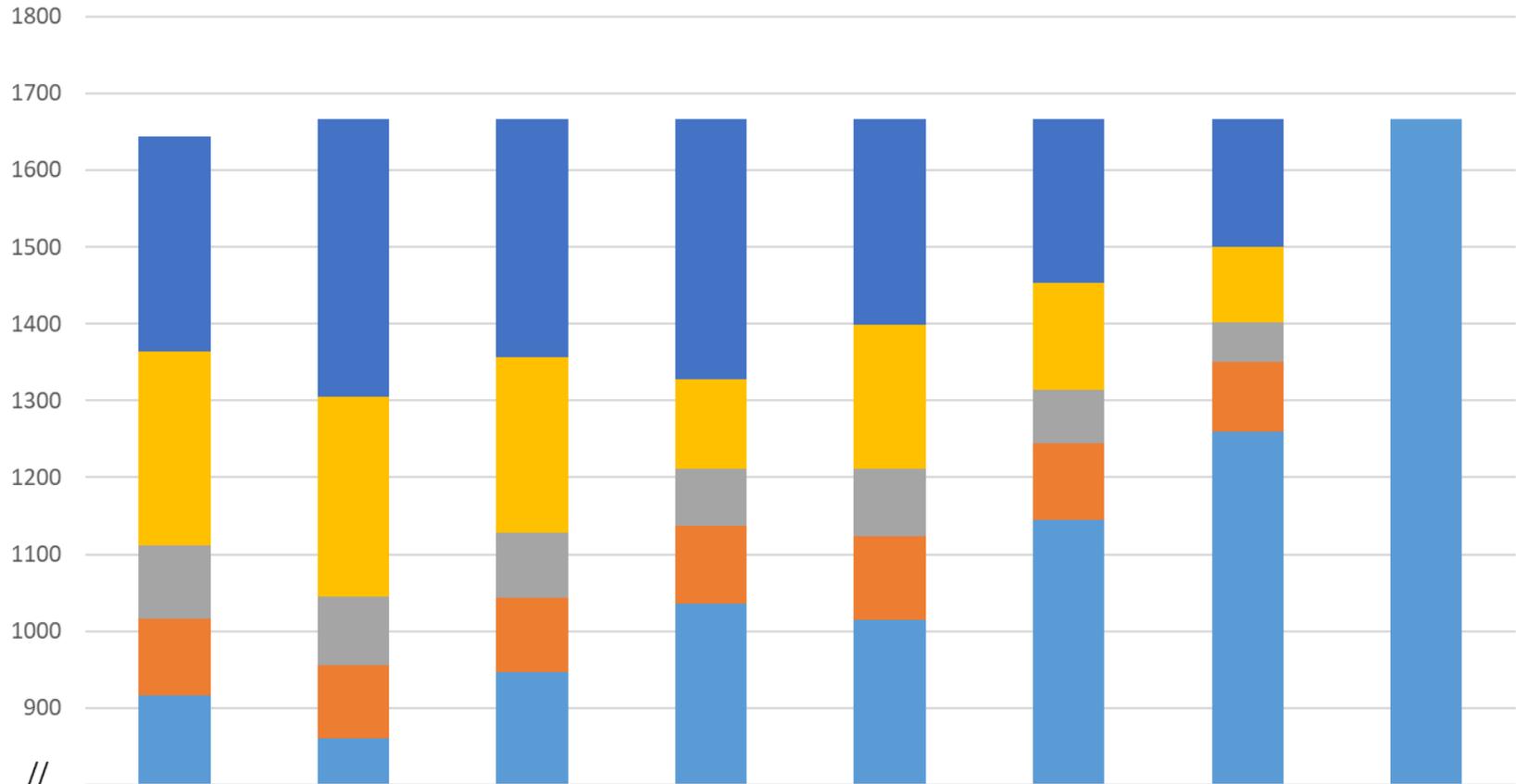
Scenario S-10



Scenario S-50



Number of water bodies by river health class by policy
(all scenarios)



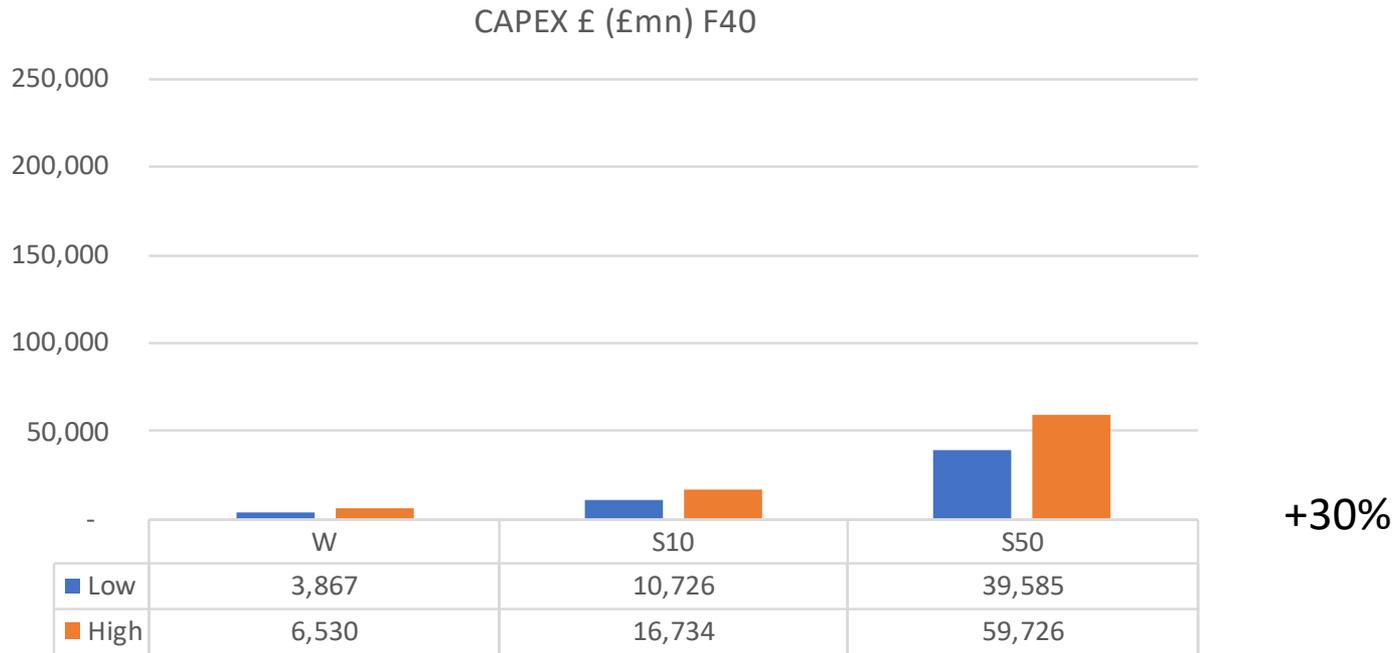
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	2020 baseline	2050 baseline	F40	F40-10	F20	F10	F5	F0
■ Bad	280	362	311	339	269	214	167	0
■ Poor	252	260	228	116	187	139	98	0
■ Moderate	96	89	84	75	87	69	51	0
■ Good	100	96	98	101	109	101	91	0
■ High	916	860	946	1036	1015	1144	1260	1667

■ High ■ Good ■ Moderate ■ Poor ■ Bad

Do nothing = +83 failing water bodies in 2050 (13% increase)

COSTS 40 spills



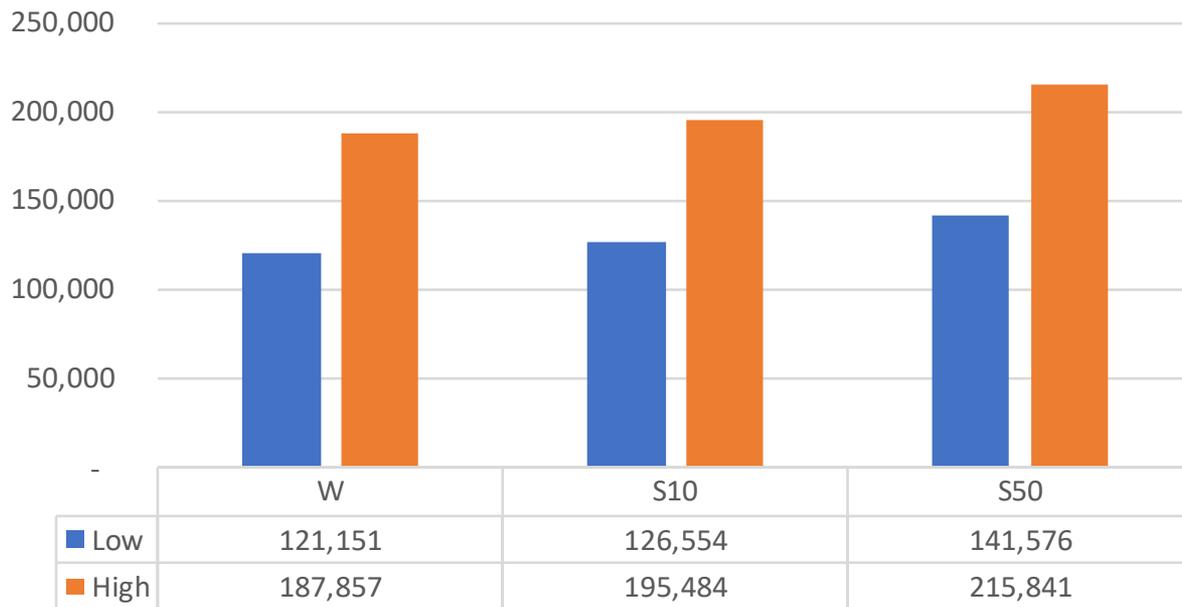
Annual bill impact £*	W	S10	S50
Low	7	20	76
High	11	30	110

+30%

* Assumes all costs are financed through water bills & burden is shared evenly across all 25 million households.

COSTS 0 (zero) spills

CAPEX £ (£mn) F0



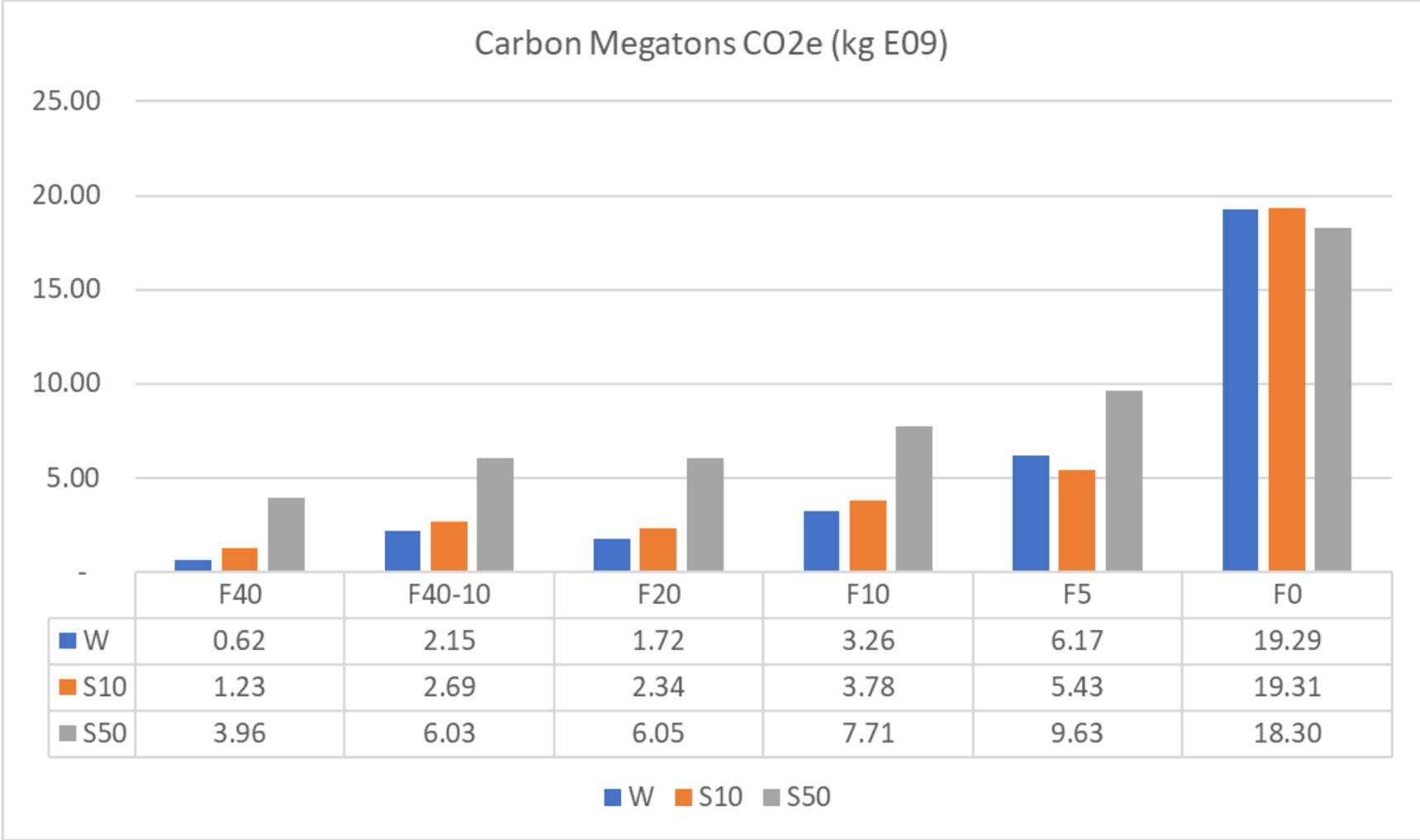
+30%

Annual bill impact £	W	S10	S50
Low	205	217	256
High	317	333	381

+30%

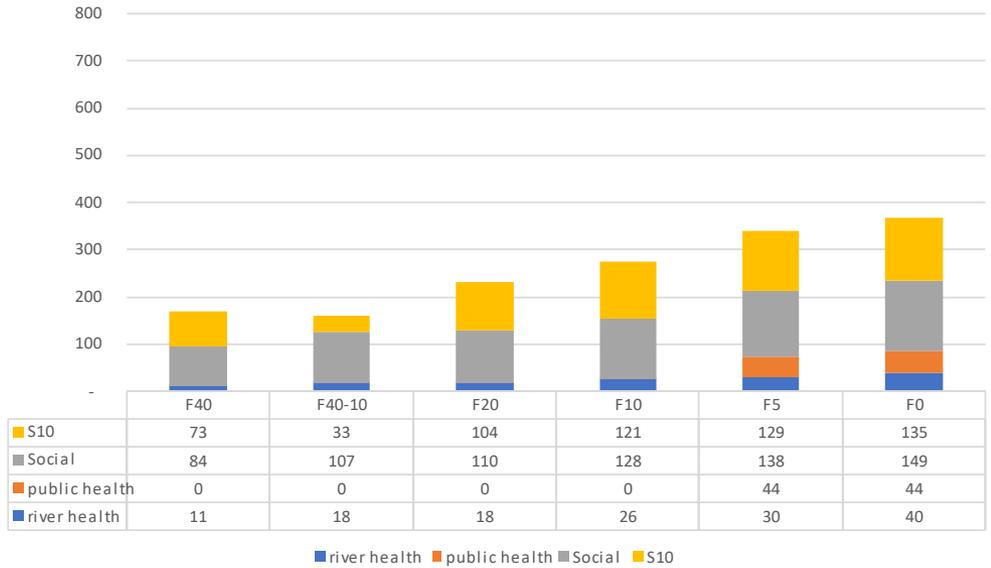
Full separation	CAPEX (£ bn)	Annual bill impact (£)
Low	338	569
High	593	999

Carbon

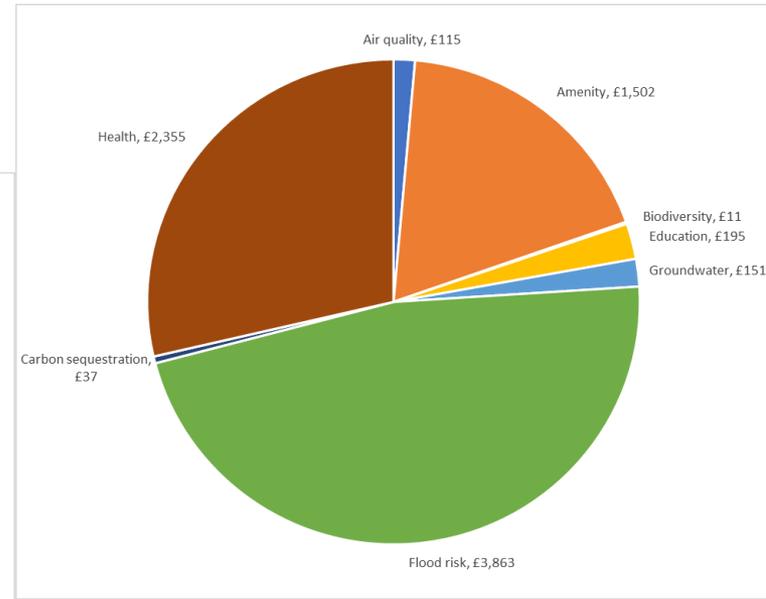


Benefits

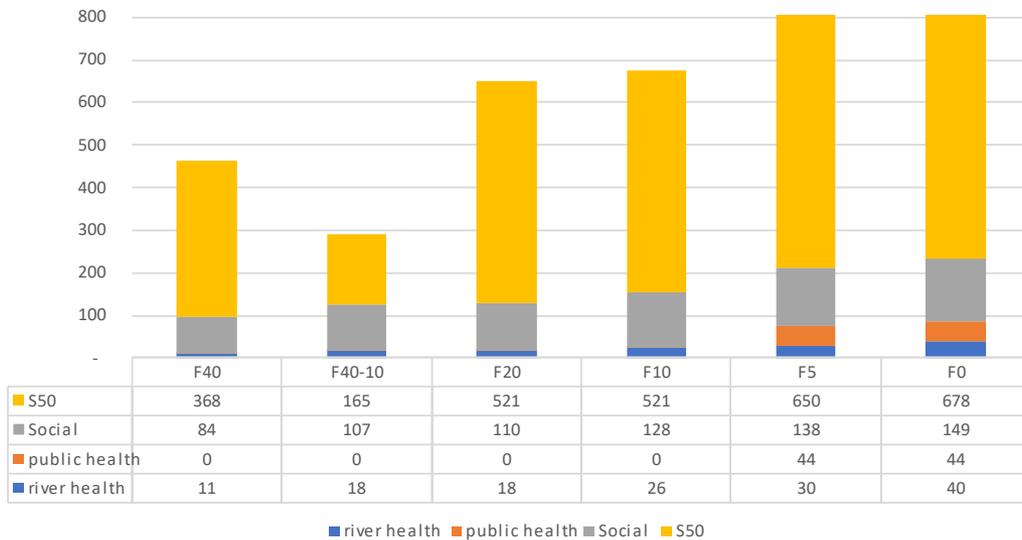
Low estimate benefits by category for each policy (£mn /year)- S10



Benefit (£) per Ha impermeable area managed through SuDS mix (low estimate)



Low estimate benefits by category for each policy (£mn /year)- S50



Conclusions

- First of kind assessment
 - Many uncertainties – local constraints & opportunities are v. important
 - EDM vs Models & operational causes for spills
 - Infiltration
 - Common benefits approach required (shared by stakeholders)
 - Customer willingness-to-pay not understood
 - Programmatic systems approach delivery – *‘we solved storm overflows whilst we were busy making our city a better place to live’*
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Key Future Milestones:

- Taskforce considers findings of SOEP and Task & Finish Group reports and makes recommendations
- Final Strategic Policy Statement to Ofwat published Early 2022
- Water Industry Strategic Environment Requirements (WISER)- Issued by EA early 2022
- Draft Consultation on Government Discharge Reduction Plan- Spring 2022/Publication in September 2022
- Storm Overflow Elimination Report- September 2022
- Review of case for implementation of Schedule 3 of Flood and Water Management Act 2010 (standards for construction of Sustainable Drainage Systems)- Autumn 2022.
- Draft Water Company Business Plans published- Summer 2023