

# Catchment permitting & the small works challenge

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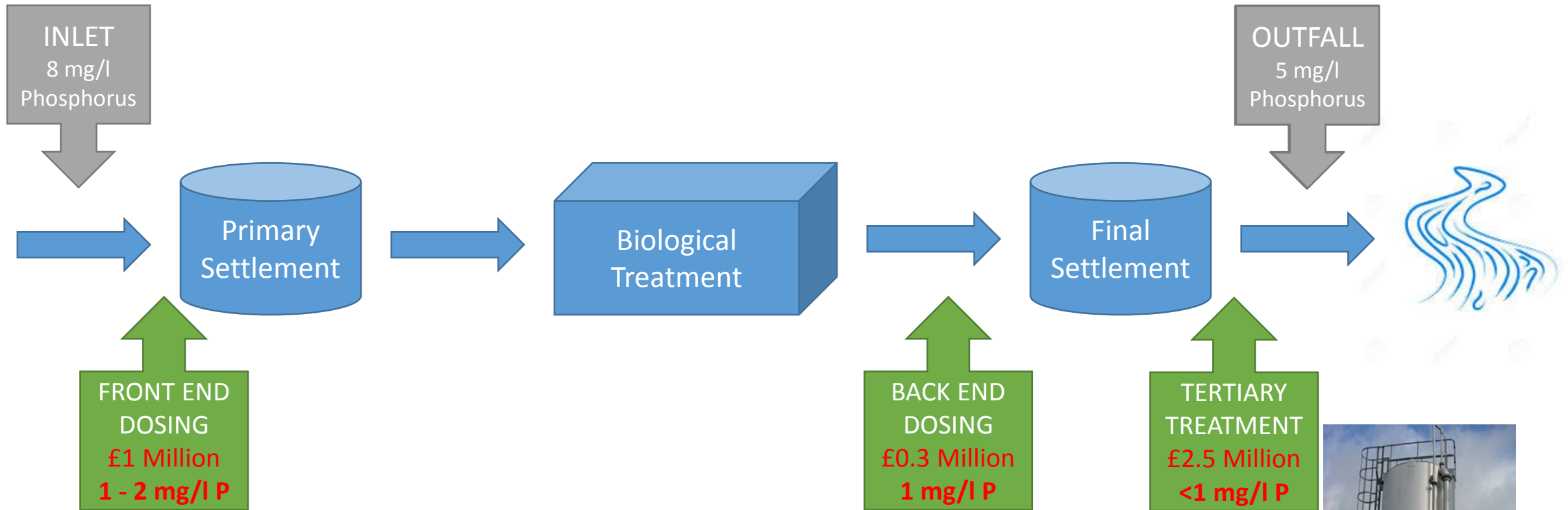


- Introduction to Wessex Water
- Cost of phosphorus removal treatment
- Long term P removal approach
- Bristol Avon catchment permitting trial
  - Compliance
  - Findings
  - Benefits





# Cost of treatment





Integrate several approaches;

- Update RWQ models – investment based on sound science
- Asset solutions for permits of 1mg/l
- Optimise assets to deliver stretch targets under catchment P permit
- Catchment interventions – work with farmers

All targeted to deliver P load reduction across a catchment





# Compliance

- Overall compliance assessed on catchment scale – target P removed tpa
- 24 composite samples/ year – stretch target sites
- Flow volume and total P mg/l of each sample reported monthly

Date	Time	Total P (mg/l)	Average flow (l/s)	Flow Volume (m3/d)	Measured Total P (tpa)	Stretch target mg/l	Target P (tpa)	Comments
09/03/2019	09:58	0.6	22.33	1930	0.420	1.0	0.6	
27/03/2019	15:59	0.4	15.51	1340	0.200	1.0	0.6	
08/03/2019	13:05	1.2	71.55	6182	2.710	1.0	1.4	high flow and high result
22/03/2019	09:05	0.7	41.38	3575	0.910	1.0	1.4	
08/03/2019	11:18	0.6	120.17	10383	2.270	1.2	2.7	
29/03/2019	09:10	1.1	56.58	4888	1.960	1.2	2.7	
13/03/2019	11:17	0.5	72.94	6302	1.150	1.0	1.0	very high flow
29/03/2019	11:35	1.1	23.96	2071	0.830	1.0	1.0	high result but low flow
04/03/2019	09:31	0.5	32.78	2832	0.520	1.1	1.5	
22/03/2019	11:08	0.6	28.83	2491	0.550	1.1	1.5	
13/03/2019	10:46	0.6	161.57	13959	3.060	1.0	2.7	very high flow
29/03/2019	10:44	1	75.8	6549	2.390	1.0	2.7	



Year ending	P load contribution from STW (tonnes/year)	Target catchment annual P load reduction (tonnes/year)	Measured annual P load reduction (tonnes/year)
Baseline	138.10	N/A	N/A
31-Dec-17	112.90	25.20	37.40
31-Dec-18	106.70	31.80	40.53
31-Dec-19	94.00	44.80	57.94
31-Dec-20	92.00	46.60	

2019 annual P load reduction forecast calculated using results available (January – August)



# Findings/ impacts



Concentration → Load



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## Catchment Permitting Application

Total Phosphorus Catchment Loads.

Summary » Permit » Calculations »

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# Benefits



# What's next.....

- Final report in April 2021 (3 complete years of data)
- Bristol Avon CP to continue and adopted going forwards
- AMP7 investigation - to assess the river water quality and ecological benefits from P reduction delivered by trial
- AMP7 approach to phosphorus removal.....



A combination of;

- Asset solutions with catchment wide permitting
- Catchment nutrient balancing – working with farmers to reduce P
- Currently drafting OTA to combine CNB and CP for two additional catchments