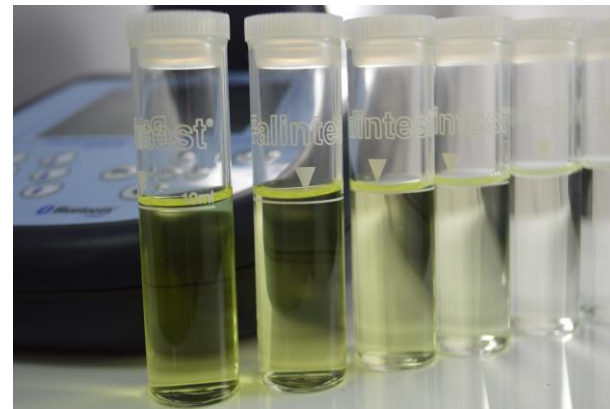
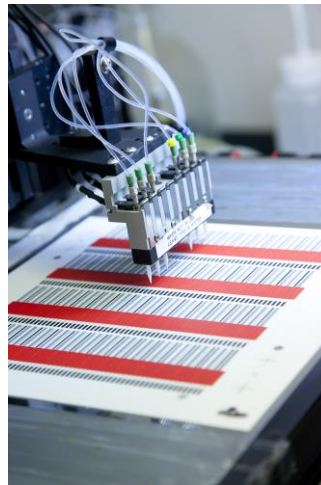


Real-time Identification of Microbial Bathing Water Risk

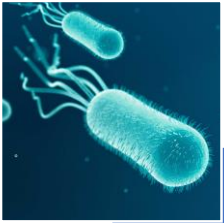
Ian Leahy



A **Halma** company

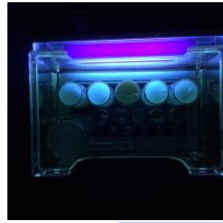






Targets

- The reliability of indicator-pathogen correlation
- Opportunistic and non-faecal pathogens slip by



Methods

- False-negatives (and positives) for culture methods
- The spread of results for Most Probable Number



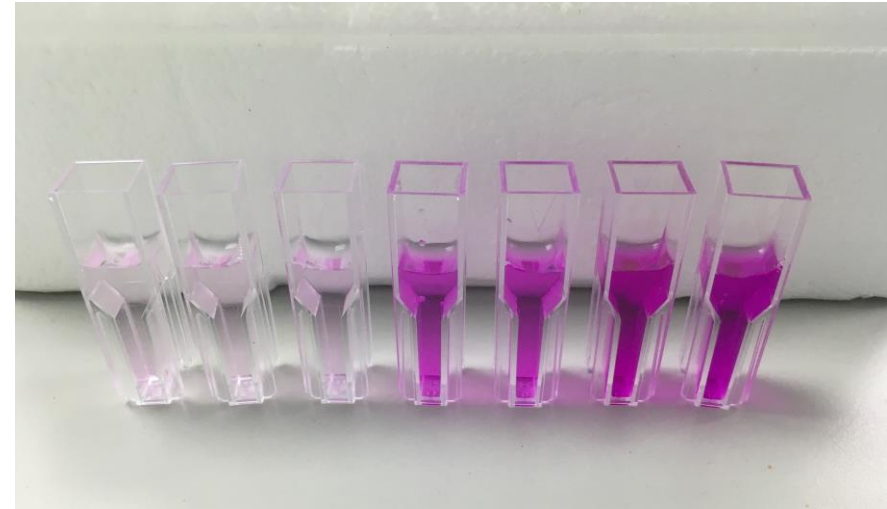
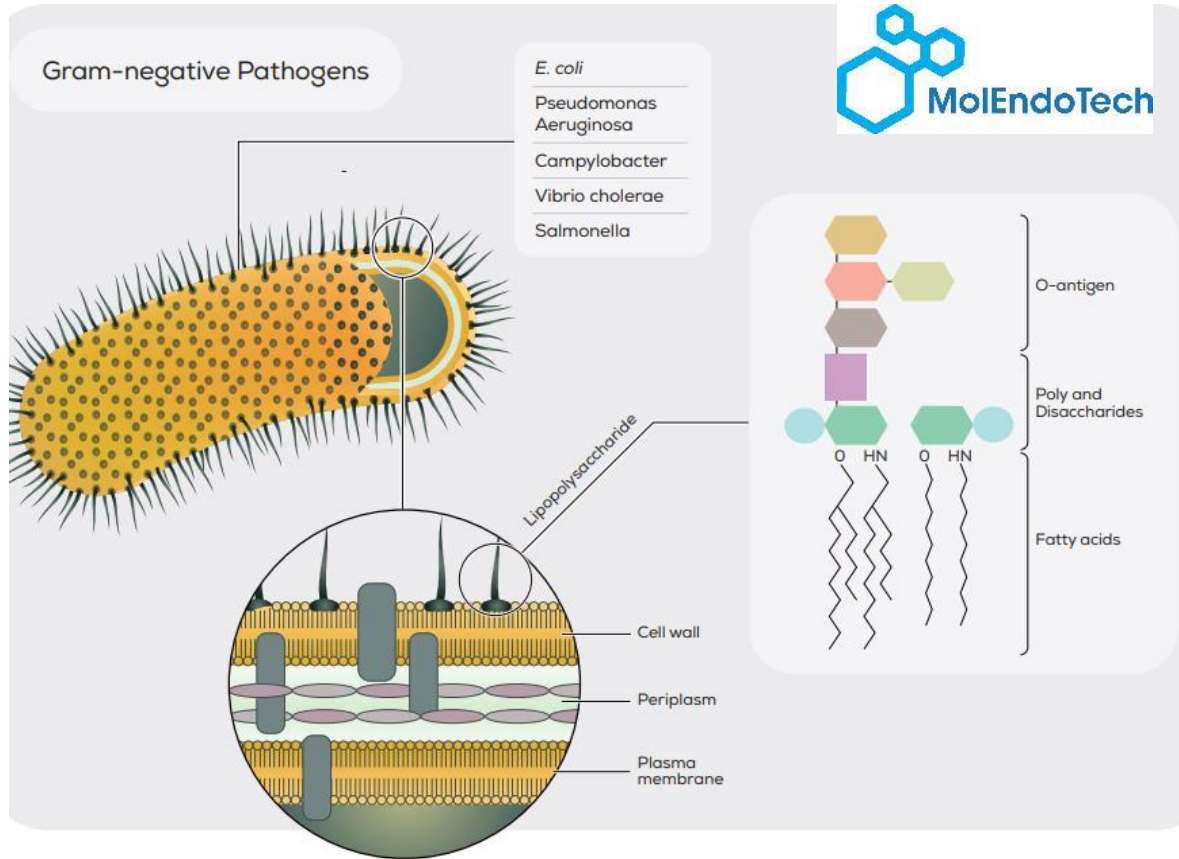
Data

- Retrospective health 'protection' for bathers
- Limited 'on the spot' problem solving

Palintest

Water Analysis Technologies

Siren - A Different Approach



BROADER HEALTH
RISK INDICATORS



RESULTS IN
30 MINUTES



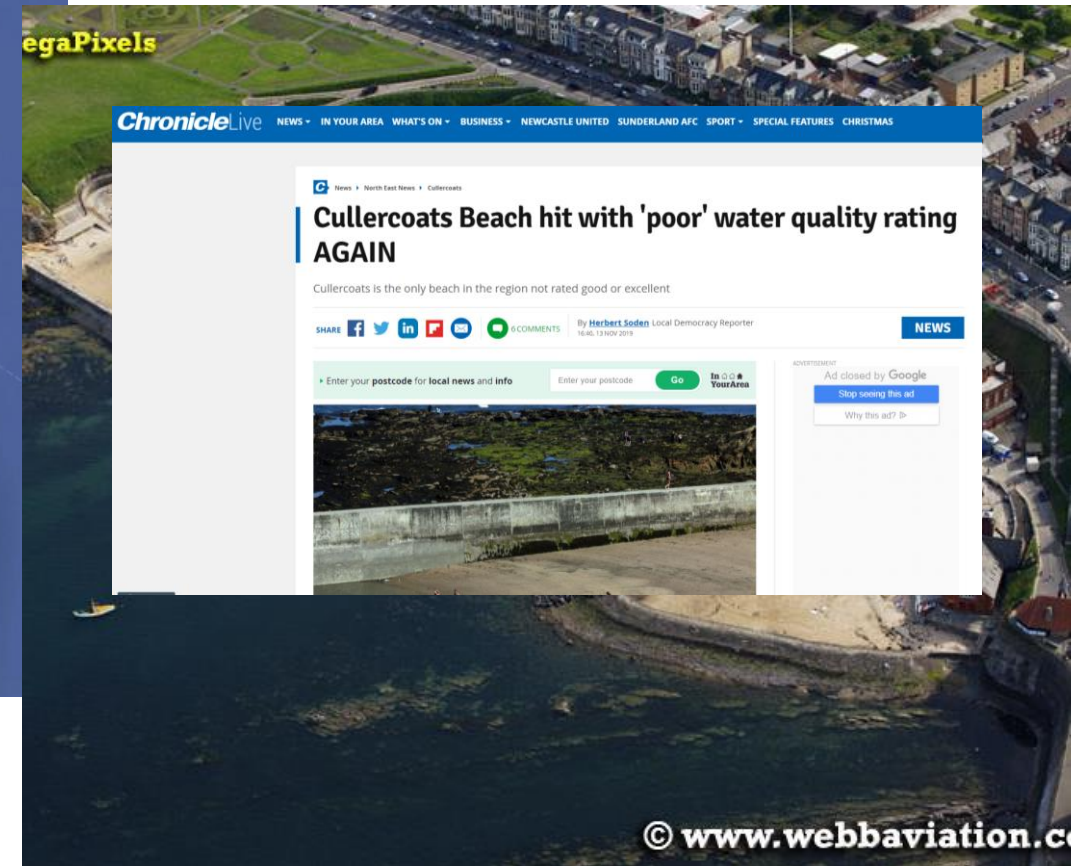
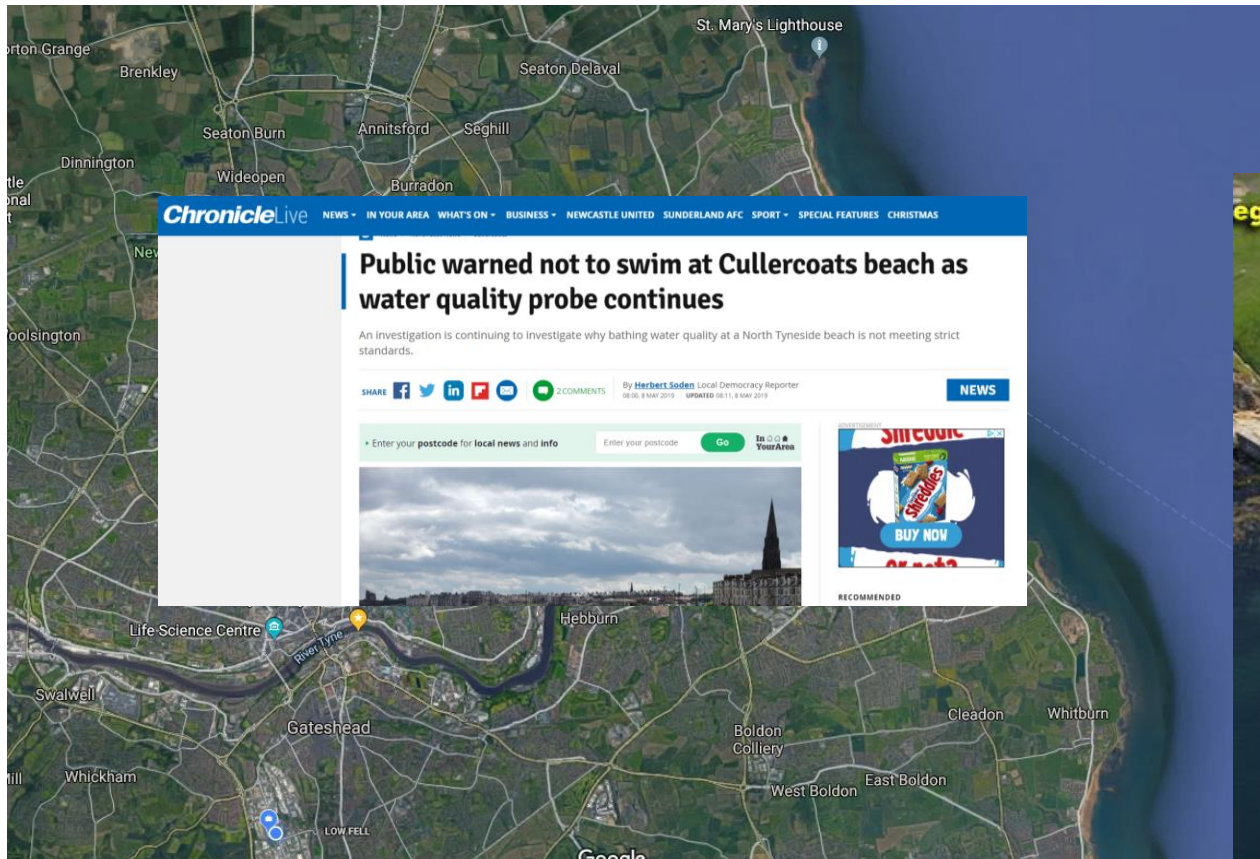
PATENTED
TECHNOLOGY



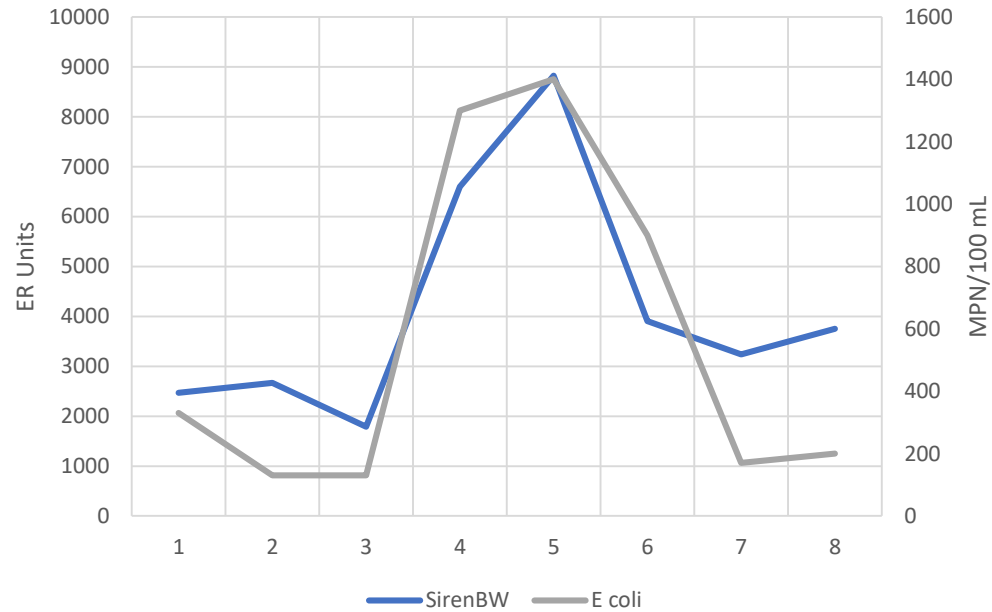
REAL TIME
TESTING

- Demonstrate real-time information generation
- Identify sources of contamination using tracking functionality
- Validate the resilience of the 'indicator'

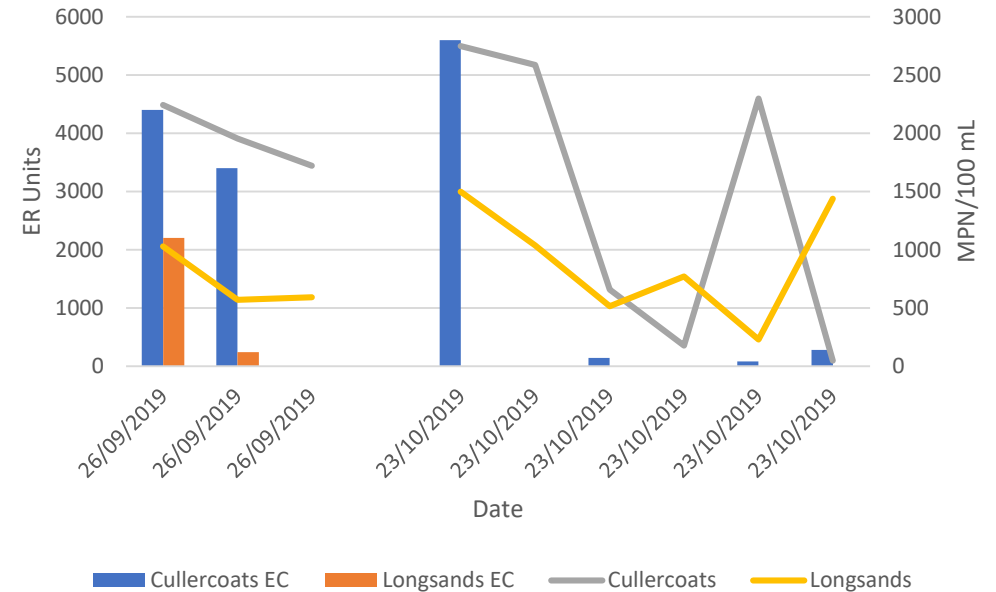




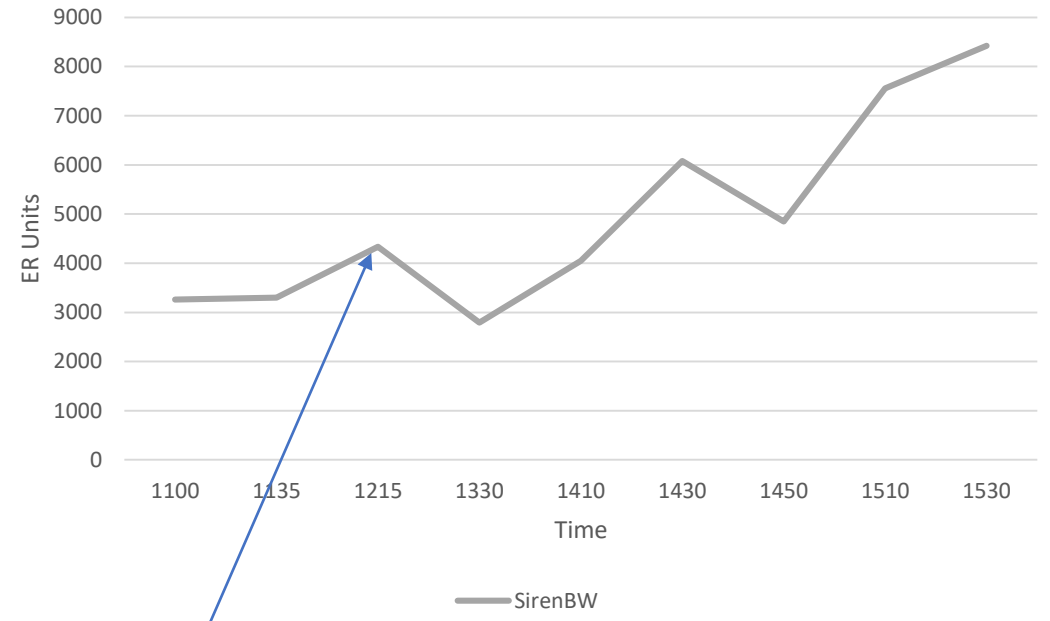
Cullercoats May 2019



Cullercoats vs Long Sands North

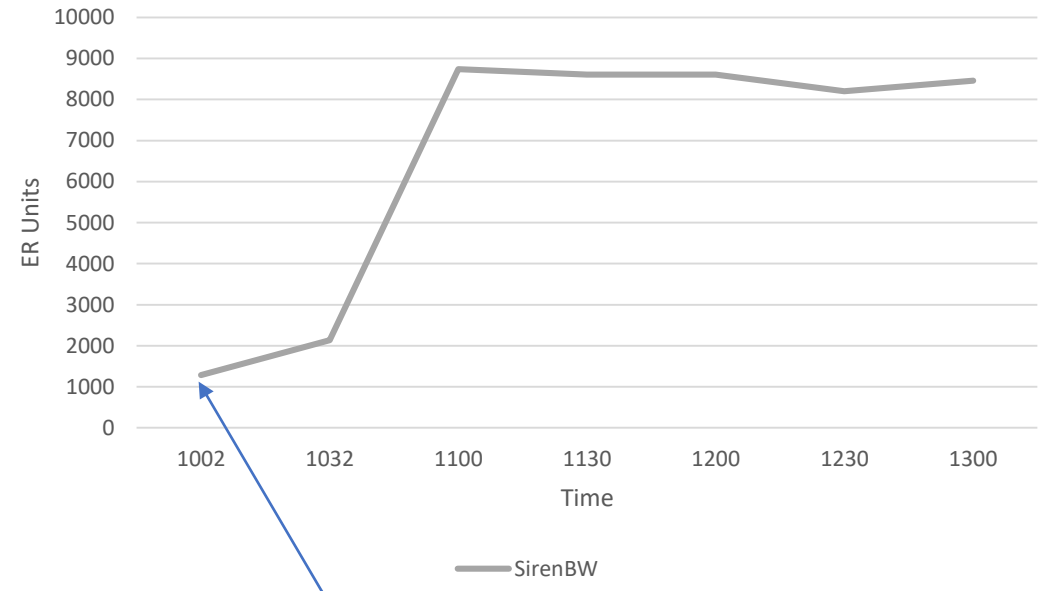


Cullercoats 17th Sept 2019

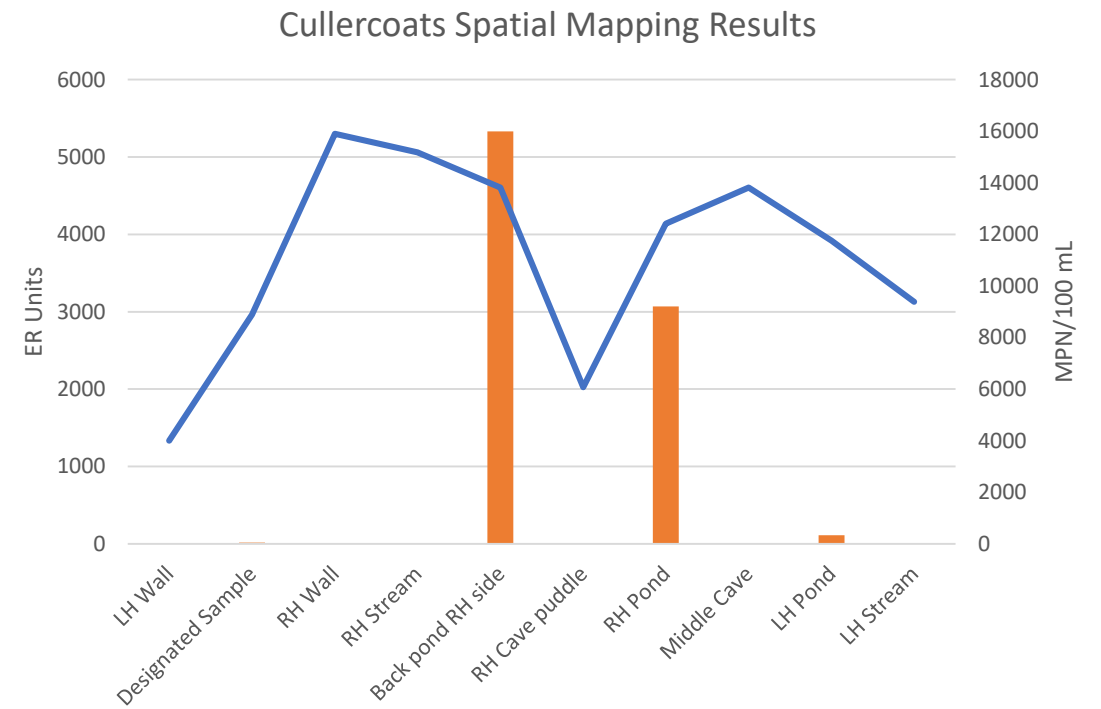


Low tide

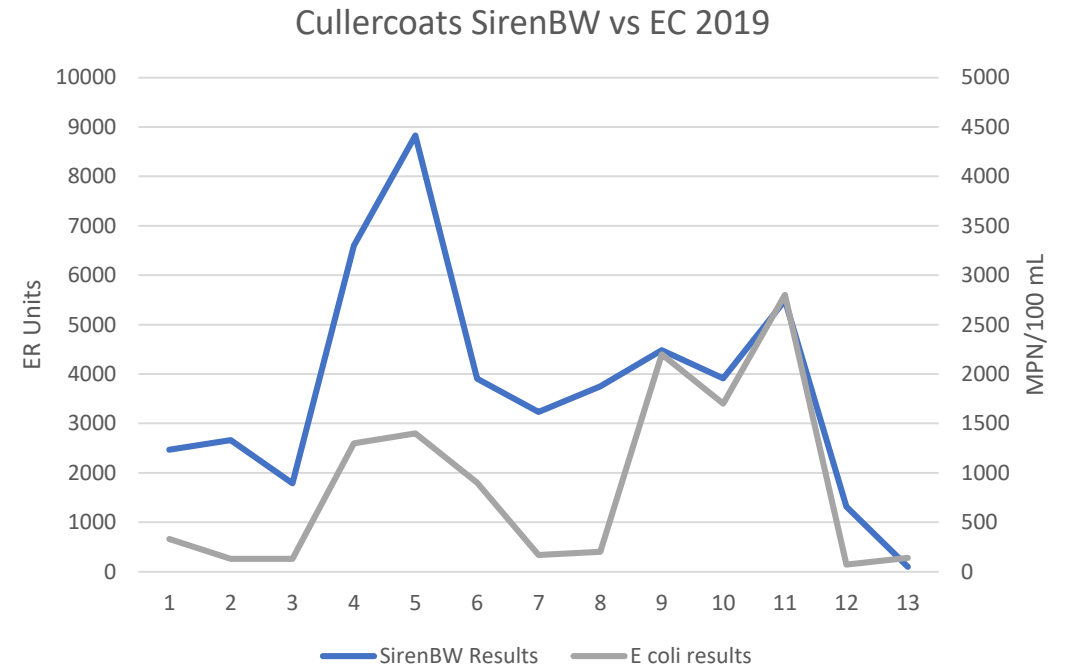
Cullercoats 23rd Sept 2019



High tide

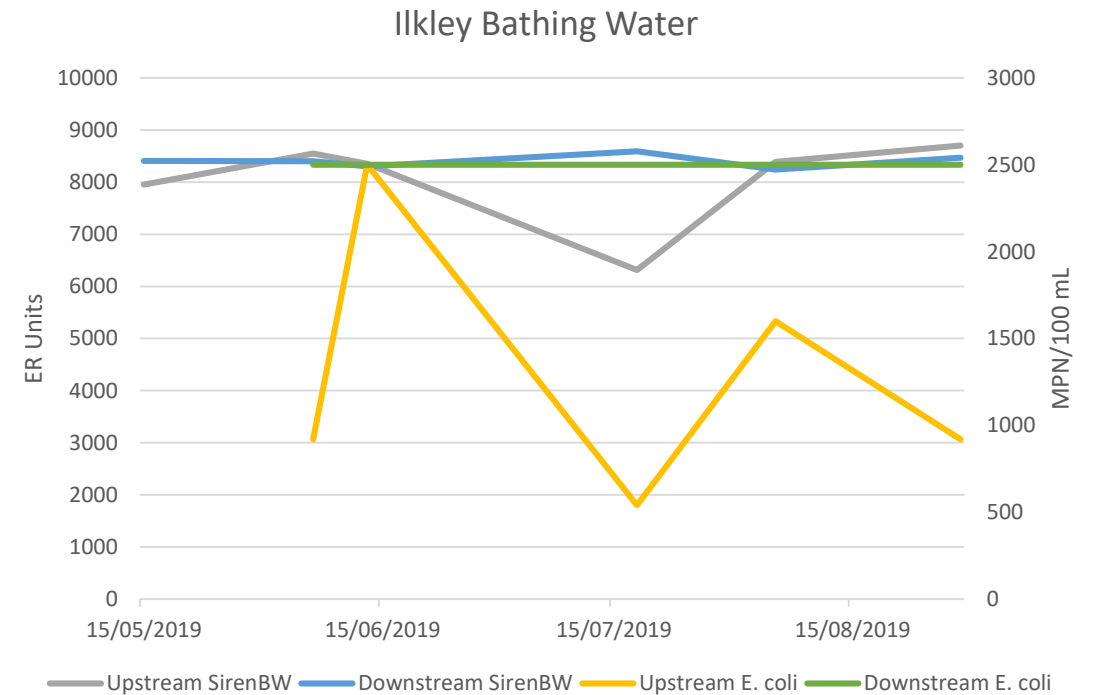
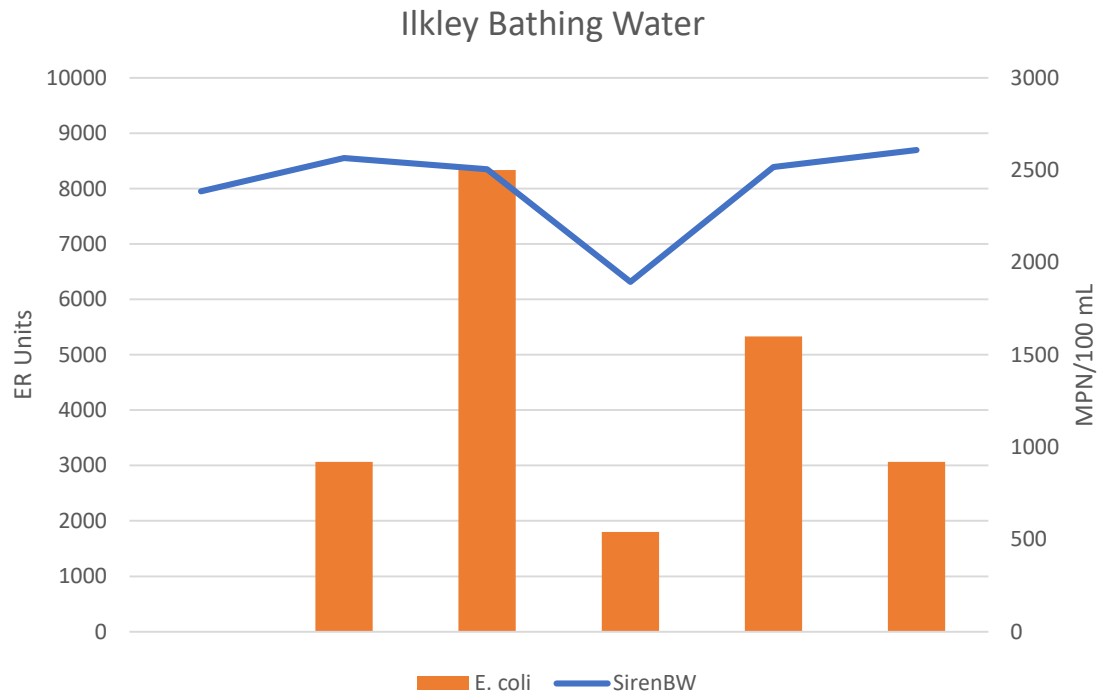


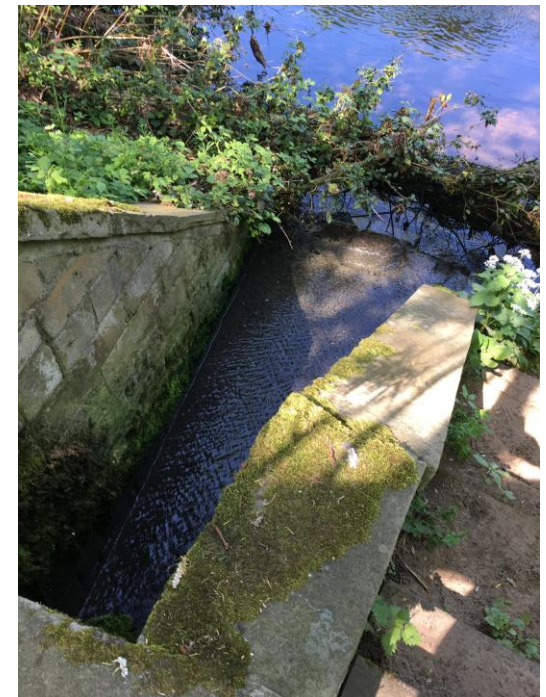
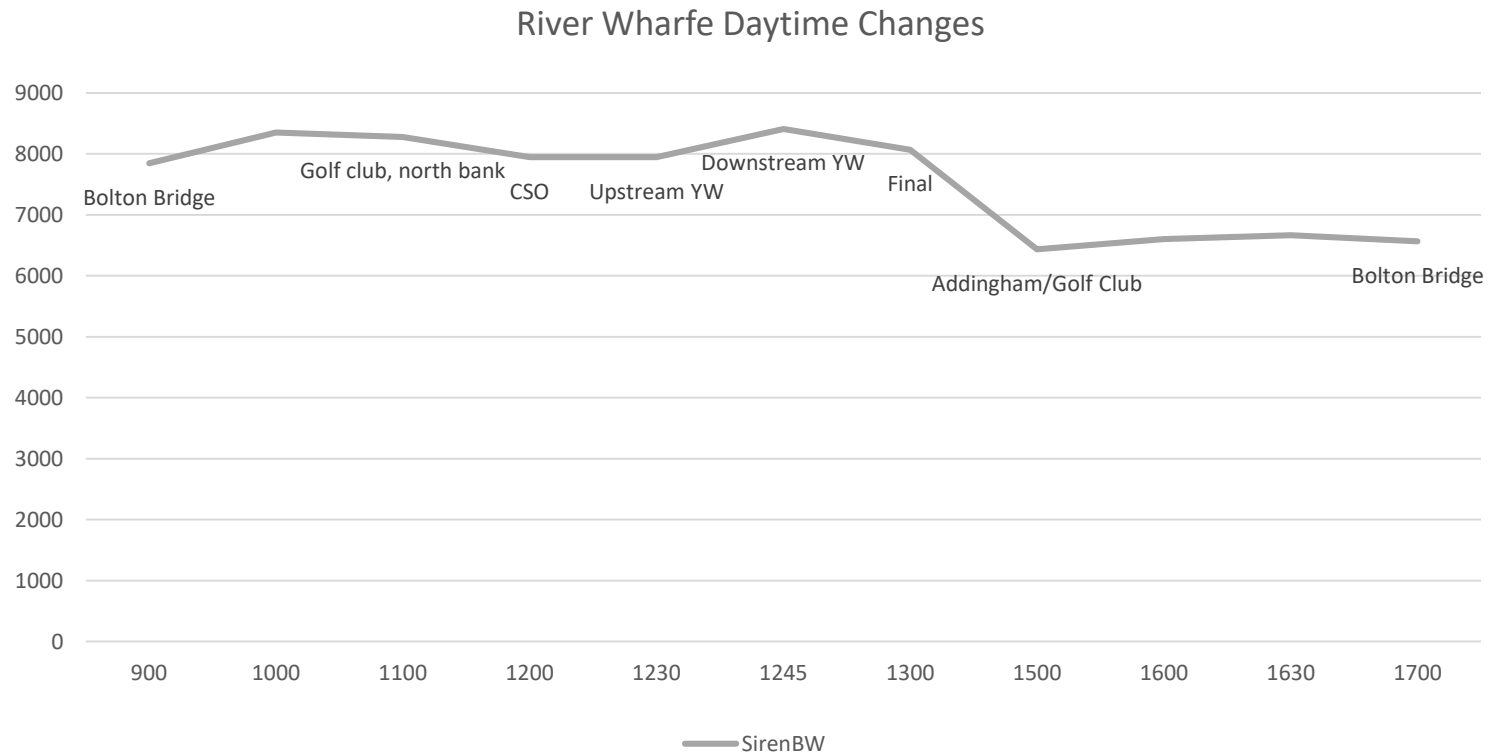
- Real-time data tracks tidal mixing issues plus transient canine 'events'
- Source tracking shows the contamination at the rear of the beach
- No false-negatives for Siren_{BW} found versus EC

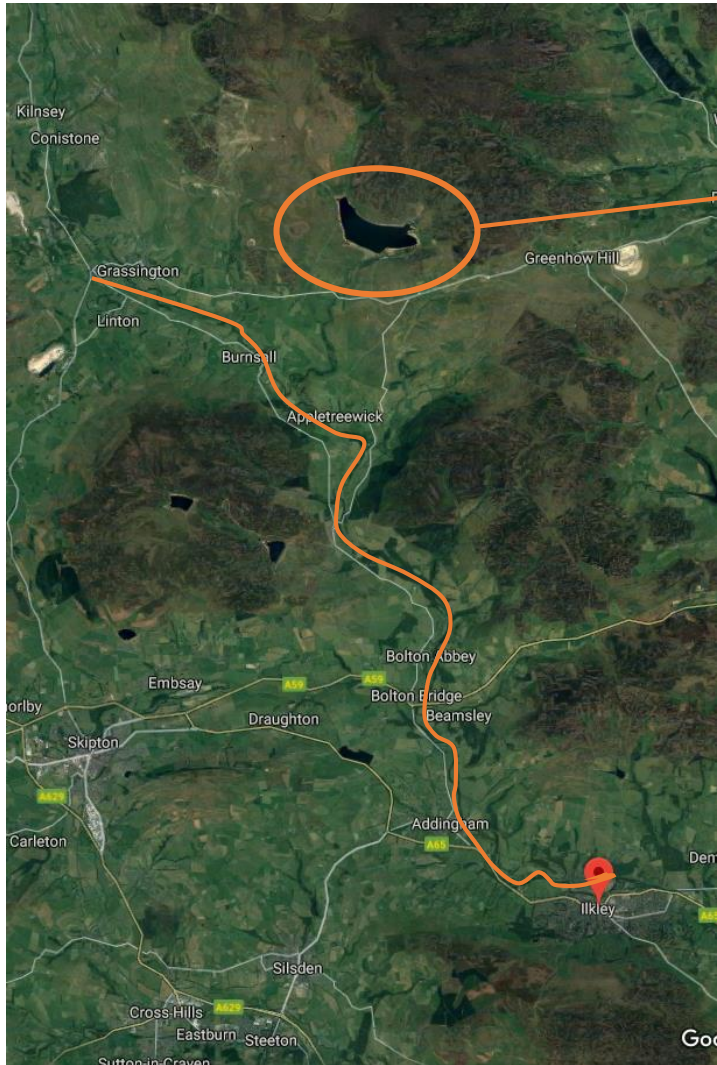




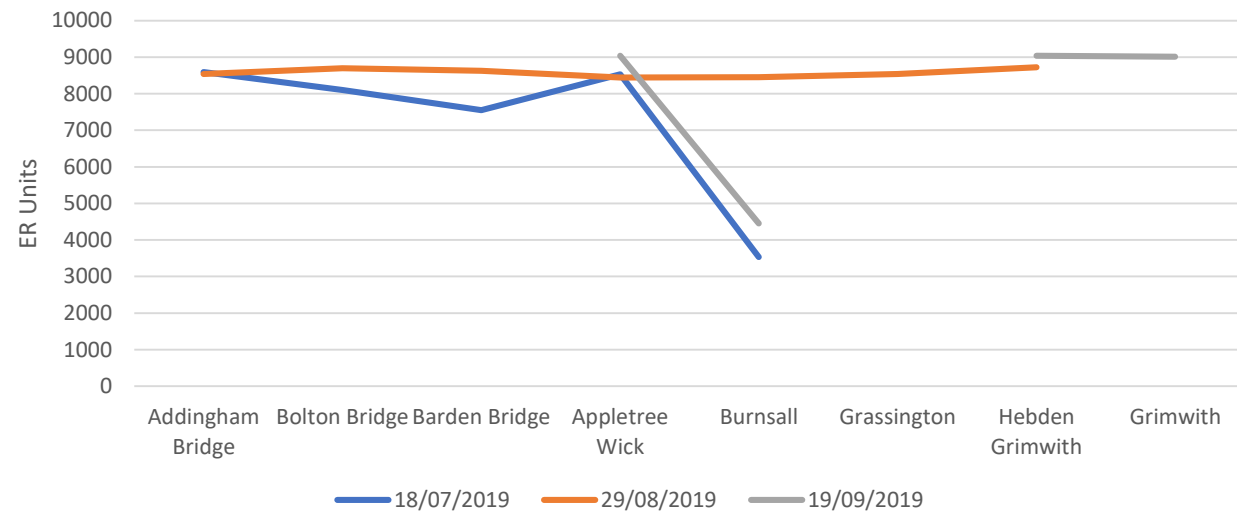


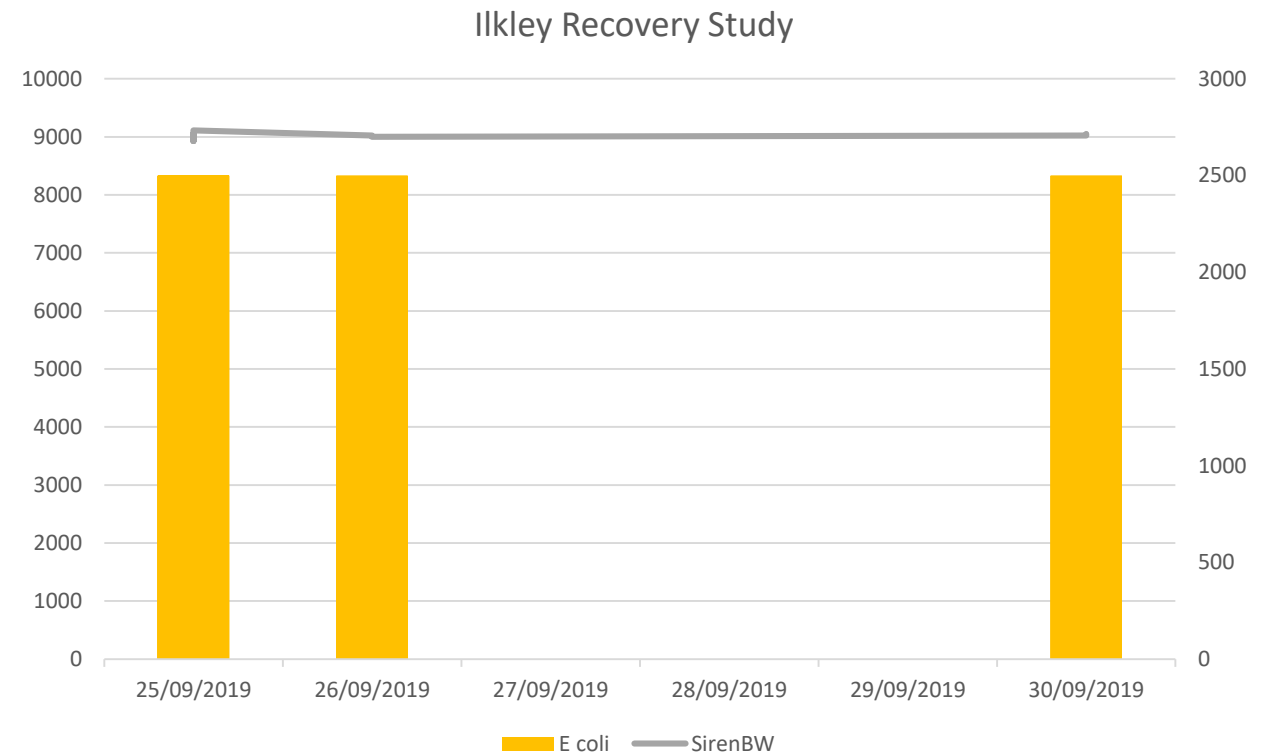




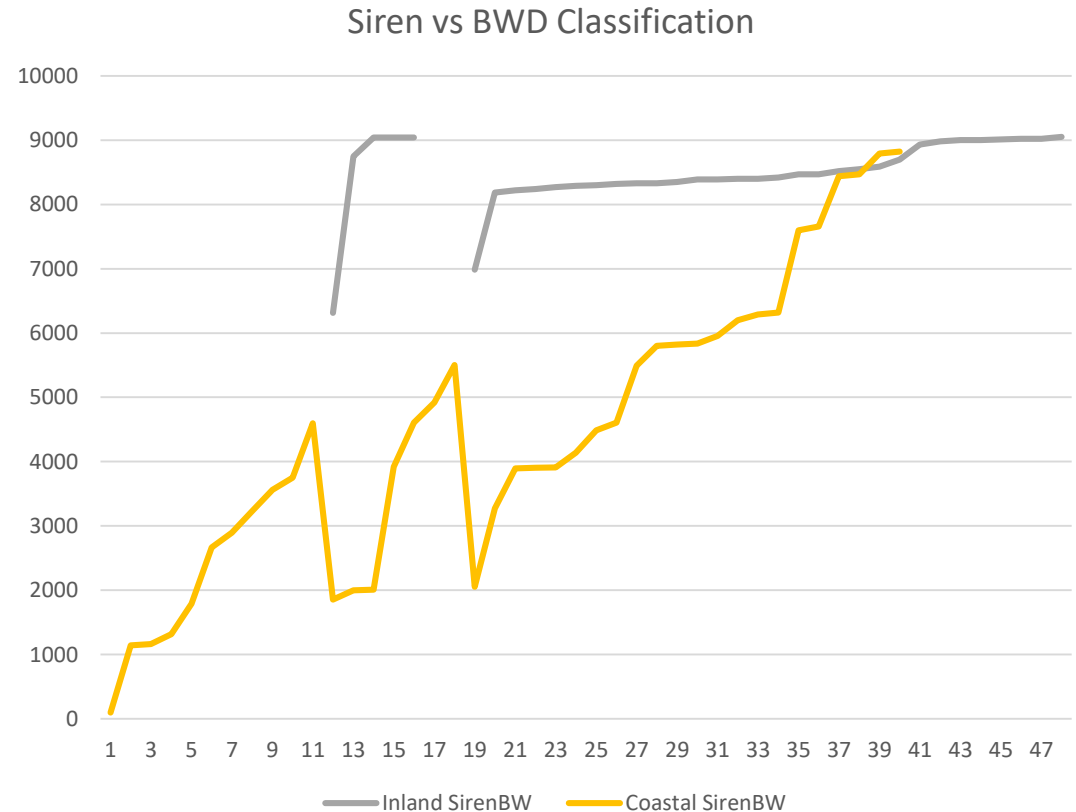


Upper Wharfe Mapping

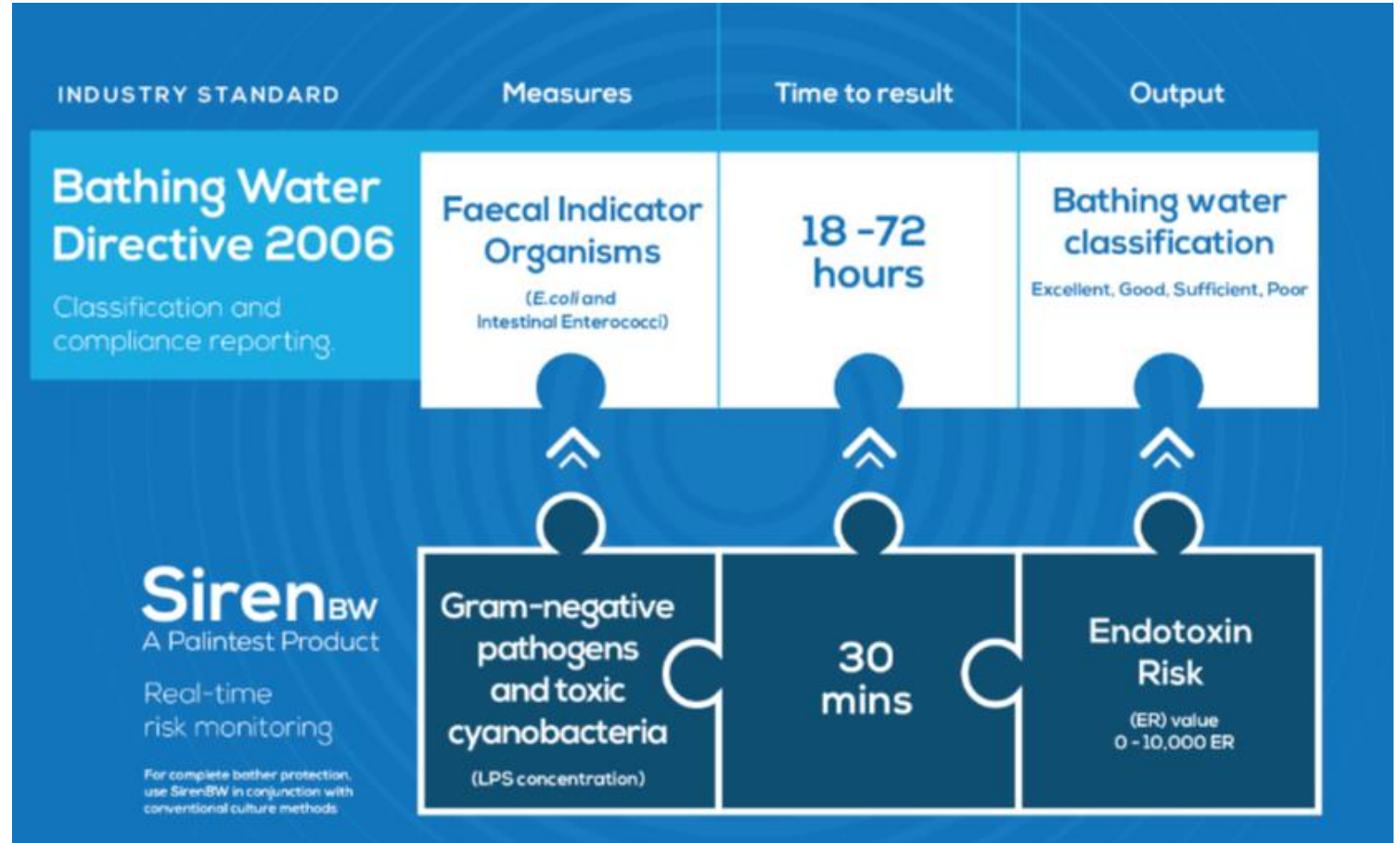




- Higher 'baselines' than coastal sites, recovery can take a long time
- Tracking is very effective for mapping input impact
- The influence of non-EC becomes more significant



- Siren_{BW} **is not** a replacement for compliance reporting and bathing water classification – that approach is defined in legislation
- Siren_{BW} **is not** a specific faecal pathogen test, rather is a resilient indicator of broad microbial risk
- Siren_{BW} **is** a point-of-use tool for real-time bather protection, pollution source tracking and improvement of predictive models





Siren_{BW}

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<https://www.palintest.com/products/sirenbw/>

