Scotland's bathing water improvements

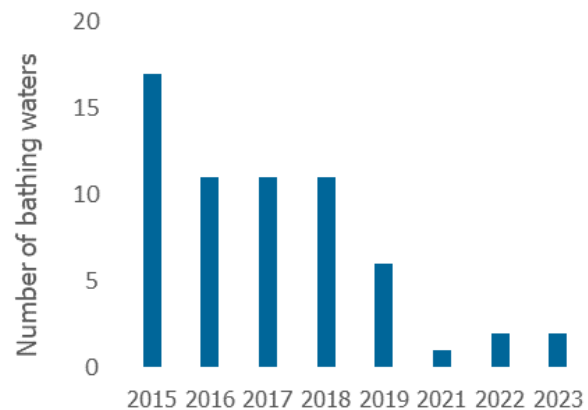## A collaborative case study at Fisherrow Sands

Gary Small,
Scottish Water

Ruth Stidson,
Scottish Environment
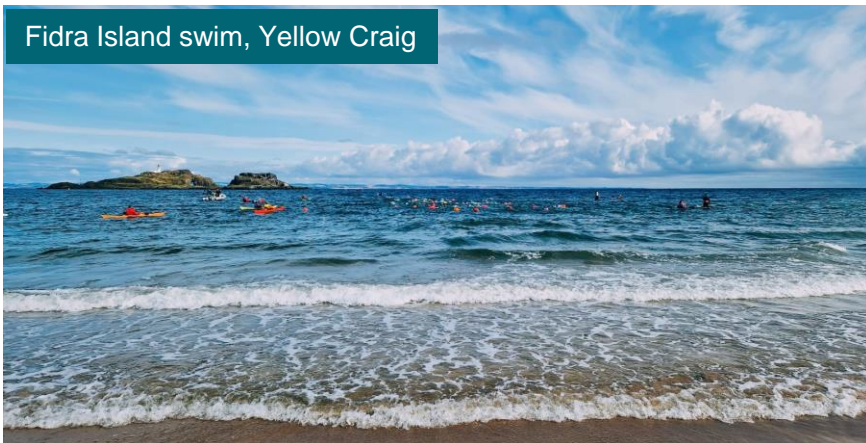Protection Agency

Portobello, City of Edinburgh

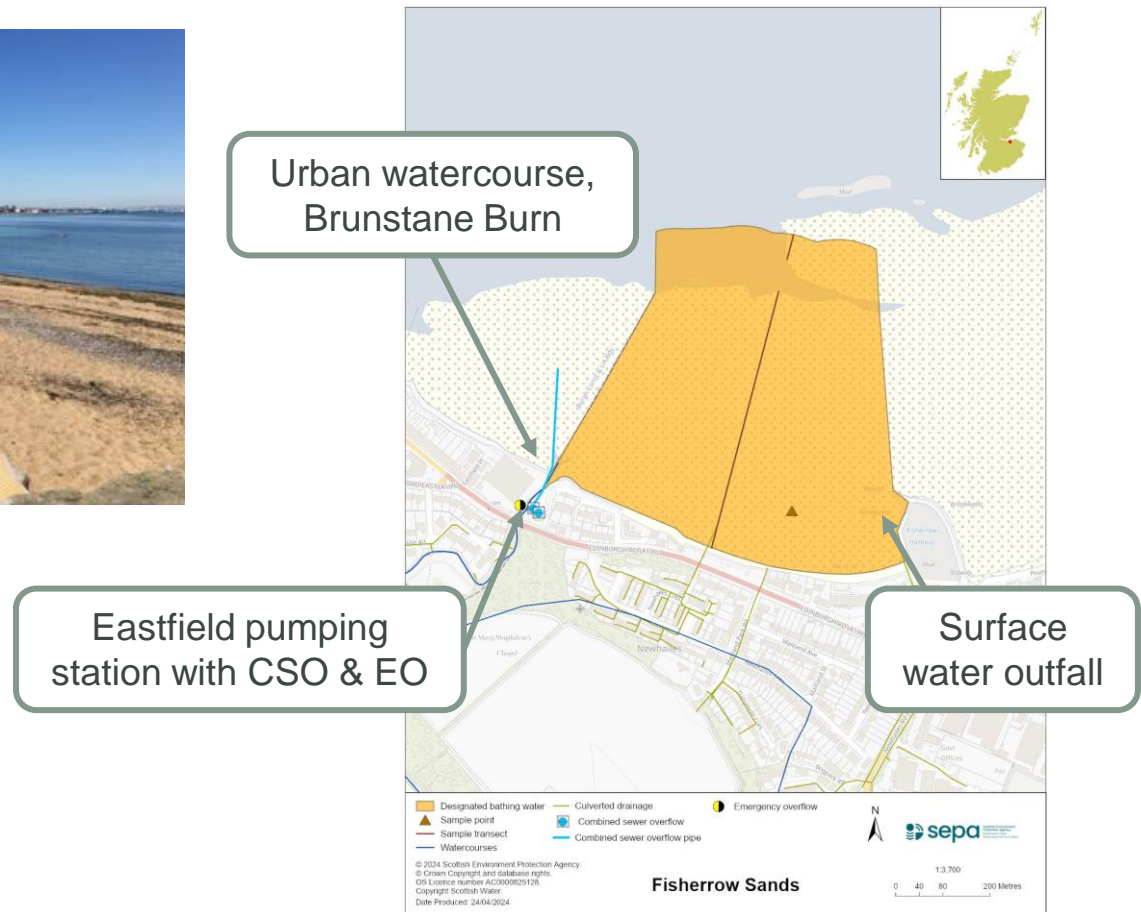Scottish bathing waters with a poor classification

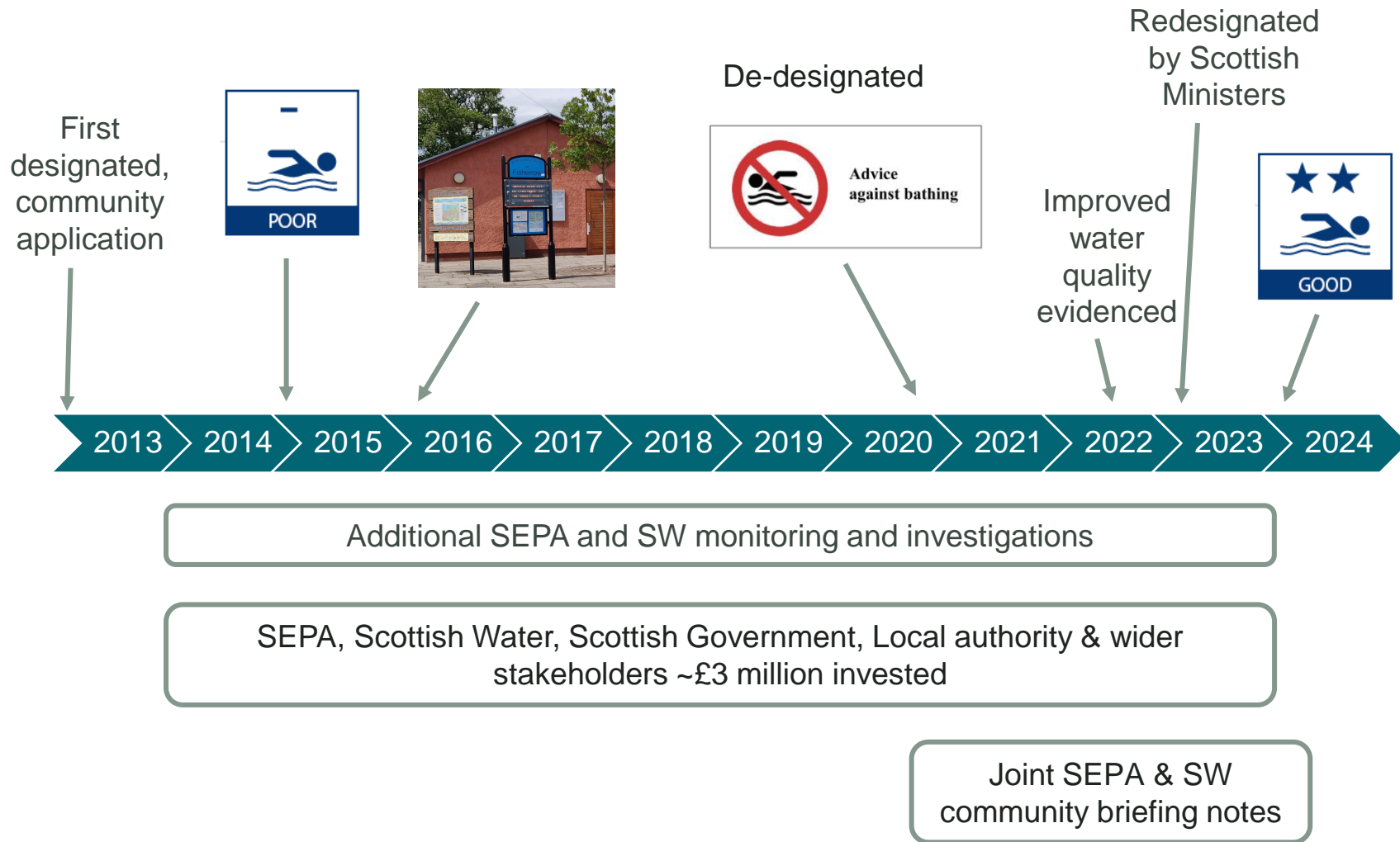Fidra Island swim, Yellow Craig

Scottish Government

Scottish Environment Protection Agency

Scottish Water

Farming community

Keep Scotland Beautiful

Local communities

Scotland's bathing water improvements

Fisherrow Sands

Urban watercourse, Brunstane Burn

Eastfield pumping station with CSO & EO

Surface water outfall

sepa.org.uk

Scotland's bathing water improvements

Redesignated
by Scottish
Ministers

De-designated

First
designated,
community
application

POOR

Advice
against bathing

Improved
water
quality
evidenced

GOOD

2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Additional SEPA and SW monitoring and investigations

SEPA, Scottish Water, Scottish Government, Local authority & wider
stakeholders ~£3 million invested

Joint SEPA & SW
community briefing notes

sepa

sepa.org.uk

Scotland's bathing water improvements

Classification monitoring results
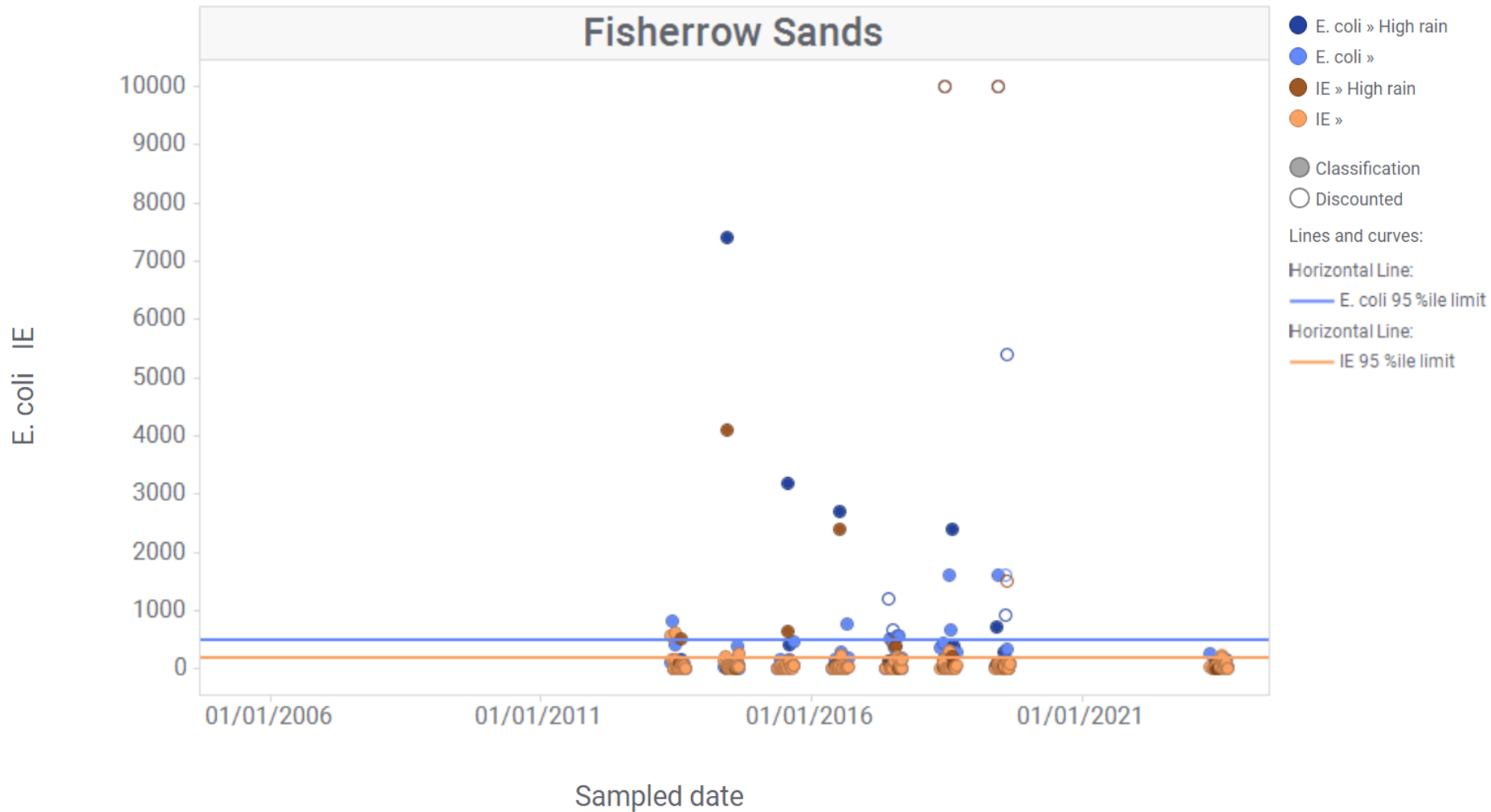
Scotland's bathing water improvements

Determining pressures - sampling

18 classification samples each season

Sampling input watercourses, transect sampling, microbial source tracking (MST)

Key pressures

- Sewage

- Dogs and gull fouling

- Exacerbated by heavy rain

- Agriculture and private septic tanks not contributors

Water quality improvement actions

- Addressing misconnections

- Sewerage network improvements

- Improvements to Eastfield pumping station

- Addressing litter, gull and dog fouling

sepa

Scotland's bathing water improvements

My Beach Your Beach

Funded by Scottish Government and delivered by Keep Scotland Beautiful

Behavior change campaign with posters, bin wraps and advice

Scotland's bathing water improvements

Heavy rain

Development and use of modelling techniques for real-time bathing water quality predictions

R. T. Stidson[1], C. A. Gray[2] & C. D. McPhail[3]

[1]Scottish Environment Protection Agency, Clearwater House, Heriot Watt Research Park, Edinburgh, UK; [2]Scottish Environment Protection Agency, Bremner House, The Castle Business Park, Stirling, UK; and [3]Scottish Environment Protection Agency, East Kilbride, UK

Water quality deteriorates after heavy rainfall, poor water can usually be predicted

Daily water quality predictions and signage, started July 2016

Predictions displayed at the bathing water on electronic signage

Potential bathers can make informed choice on using the water

If we take a high result when poor water quality is predicted, we can remove this from the classification dataset

Improved model developed for 2019

$\bullet$ sepa

sepa.org.uk

Thank you

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