

# Assessing Pharmaceutical Occurrence, Persistence and Degradation in Scottish Waters



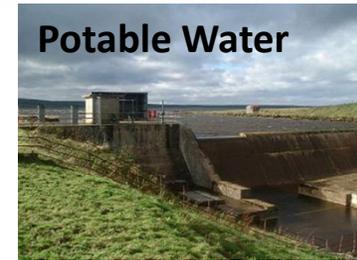
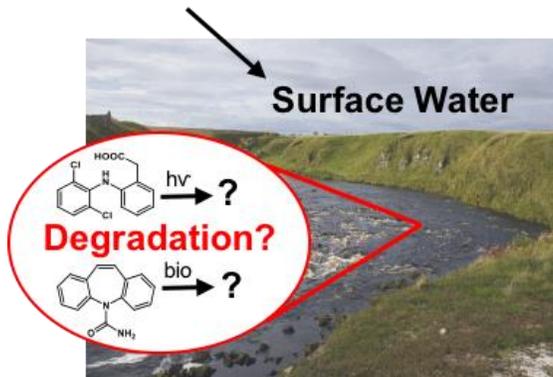
Lydia Niemi PhD Researcher and Hydro Nation Scholar

lydia.niemi@uhi.ac.uk  
@LydiaNiemi

## Aims:

- Monitor pharma fluxes in hospital discharge
- Investigate hospital impact on water quality
- Monitor pharma removal and persistence in WWTPs
- Determine pharma degradation under environmental conditions

## Wastewater Effluent



Wick, Caithness

Changes in water quality, pharma introduction

## Observations:

- Pharma quantifiable in hospital wastewater (low – mid  $\mu\text{g/L}$  range)
- Hospitals impact pharma loads in municipal wastewater
- Rural WWTPs ineffective treatment
- Natural degradation dependent on water and pharma properties
- Persistent select pharma and degradation products
- **Rural environments at risk!**