

Supplementary file 2. Inclusion and Exclusion Selection Criteria

Table 1. Selection criteria for Question 1.

Criteria	Include	Exclude	Justification
Population	Humans of any age	Animals, plants	Evidence of antimicrobial resistant (AMR) bacteria transmission to humans from the environment is the topic of this review, and of particular interest to relevant stakeholders
Exposure	<p>Recreational exposures to inland surface waters commonly used for recreation (rivers, streams, lakes, ponds, reservoirs, canals, quarries, transitional water bodies (e.g. estuary/brackish water)).</p> <p>Full and partial immersion exposures, include swimming, wading, plunging (diving), and watersports involving water crafts e.g. paddle boarding, canoeing, kayaking, boating.</p>	Seawater bodies, Groundwater, drinking water, disinfected pools.	We aim to evaluate the evidence of antimicrobial resistance transmission to humans from freshwater environments, used by the public for recreation.
Outcomes	Outcomes associated with exposure to or transmission of AMR bacteria in water, including quantitative estimates of exposure to AMR bacteria in water (e.g. number of resistant bacteria ingested), and/or human colonisation (skin, faecal, dermal), infection or death by AMR bacteria	Exposure to or infections resulting from microorganisms other than AMR bacteria (i.e. non-resistant bacteria, AMR viruses, AMR fungi, AMR parasites)	AMR bacteria are of interest and a priority for policy-makers.
Timeframe	Studies published after 2000 only	Studies published before 2000	The EU implemented new Water Framework Directive in 2000 to improve the quality of water bodies (inland, transitional and coastal) in

			Europe. (https://eur-lex.europa.eu/eli/dir/2000/60/oj)
Geographical range	Countries within the EEA, Switzerland and the UK.	All other countries.	The selected countries reflect water industry legislation guided by similar policies
Language	English only	Studies not written in English	Limited resources available to translate non-English texts
Types of study (study designs)	Experimental (randomised control trials), observational (case-control, prospective/retrospective cohorts, cross-sectional), descriptive (case studies, case series), modelling study designs, or systematic reviews.	Non-systematic literature reviews, non-systematic meta-analyses, commentaries and opinion pieces	It will not be possible to assess bias in narrative /non-systematic literature reviews, commentaries and opinion pieces

Table 2. Selection criteria for Question 2

Criteria	Inclusion	Exclusion	Justification
Population	AMR bacteria and genes, including proxies/indicators or AMR such as class 1 integrons (<i>int1</i>)	Excluding susceptible bacteria; AMR viruses, fungi, protists, and parasites.	Relevant to research question. The <i>int1</i> gene is commonly used as an indicator of ARGs.
Exposure	Water or sediment samples taken from eligible inland surface waters commonly used for recreation (as above).	Seawater bodies, Groundwater, drinking water, disinfected pools.	As above for Q1
Outcome	Studies reporting a quantitative measure of the prevalence of resistance (i.e. a percentage, proportion, relative abundance of resistance e.g. resistant bacteria per unit of sample)	Studies reporting only absolute abundance of resistance	
Timeframe	Studies published since 2000	Studies published before 2000	As above
Geographical range	Studies measuring AMR in relevant environments located within the UK (England, Wales, Scotland, Northern Ireland)	Studies measuring AMR in relevant environments located outside the UK	Consistent with evidence map (Stanton et al 2022), size of evidence base expected and relevant to UK stakeholders.
Language	English	Studies not available in English	As above
Study designs	Longitudinal, cross sectional, and/or transect studies	Narrative literature reviews, commentaries and opinion pieces	