

# EMERGING PATHOGENS OF CONCERN

Project outcomes contribute to the following UN Sustainable Development Goals:



For more information about the water industry's contribution to the UN SDGs see [Global Goals for Local Communities: Urban water advancing the UN Sustainable Development Goals](#)

## Background

This report summarises current knowledge on six emerging pathogens of concern to the water industry. These pathogens occur naturally in environmental water bodies and are capable of completing their entire life cycle in the environment without any requirement to infect human or animal hosts. Their numbers are reduced by water treatment and disinfection processes, but they are subsequently able to regrow in water supply systems. All of these microorganisms exist as part of complex biofilms in the natural environment and in engineered water systems. This growth niche provides protection from disinfectants and other adverse conditions.

Four pathogens occur worldwide, two have restricted geographic ranges and five microorganisms are classified as opportunistic pathogens. The latter generally cause significant infections only in people who have underlying diseases or injuries which compromise the normal defences of the body.

## Outcomes and Benefits

At the time of publishing, this report was the most definitive and complete collation of current understanding. Outcomes included:

1. A comprehensive report detailing current knowledge on:

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|-------------------------------|------------------------------------|
| • <i>Legionella</i> species   | • <i>Pseudomonas aeruginosa</i>    |
| • <i>Naegleria fowleri</i>    | • <i>Acanthamoeba</i> species      |
| • Nontuberculous mycobacteria | • <i>Burkholderia pseudomallei</i> |
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2. Facts sheets on each of the above pathogens plus one on opportunistic pathogens – characteristics, infectivity, implications for health, where it tends to flourish, trends in occurrence and management of risks.

## Availability

This project was completed in December 2016. It was funded by the following WSAA members:

Barwon Water	Melbourne Water	South East water
Coliban Water	MidCoast Water	Sydney Water
Gladstone Area water Board	Power and water	TasWater
Hunter Water	Queensland Urban Utilities	Water Corporation
Logan City Council	Seqwater	WaterNSW

Factsheets are freely available from the WSAA website. Follow the link:

<https://www.wsaa.asn.au/publication/emerging-pathogens-concern-water-industry-factsheets>

The full report is available for purchase to WSAA members only.

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