

Factors Associated with Disease in Farmed and Wild Salmonids Caused by *Tenacibaculum Maritimum*: a scoping review

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Background

- Salmonid production in BC, Canada, and internationally is at an all-time high to meet global demand¹.
- With this, there is an increase in bacterial diseases such as yellowmouth, caused by the bacterium *Tenacibaculum maritimum*¹.
- Producers use antimicrobials to combat bacterial diseases, presenting a risk of antimicrobial resistance (AMR) spreading from the aquatic to terrestrial environment².
- Mortality rates can be up to 15% with an economic burden of \$1.6 million per year for a single company³.
- Anecdotally, a large proportion of antimicrobial use (AMU) in BC is due to the treatment of yellowmouth.
- AMU could be dramatically reduced if the disease occurrence could be controlled by preventative measures³.
- Identifying management, production, environmental, and other factors associated with the development of yellowmouth will elucidate disease control strategies.

Objective

To synthesize the available literature to identify factors associated with the development of yellowmouth in farmed and wild salmonids from *Tenacibaculum maritimum*.

Methods

- This review followed the framework outlined in the Joanna Briggs Institute Reviewer's Manual⁴ and will follow PRISMA-ScR reporting guidelines set by Tricco et al.⁵.
- Search Strategies were developed a priori in consultation with a librarian.
- Unrestricted search strings were run through MEDLINE®, ProQuest, and Scopus on July 21, 2022.
- There are no restrictions on language or date, however, only published and peer-reviewed research will be included.
- Included articles must investigate *Tenacibaculum maritimum* as a primary point of interest and at least partially include relevant factors (e.g., management, production, disease, environmental, or other).
- Two independent reviewers in primary screening, with a "1 in 2 out" rule in secondary screening.

Preliminary Results

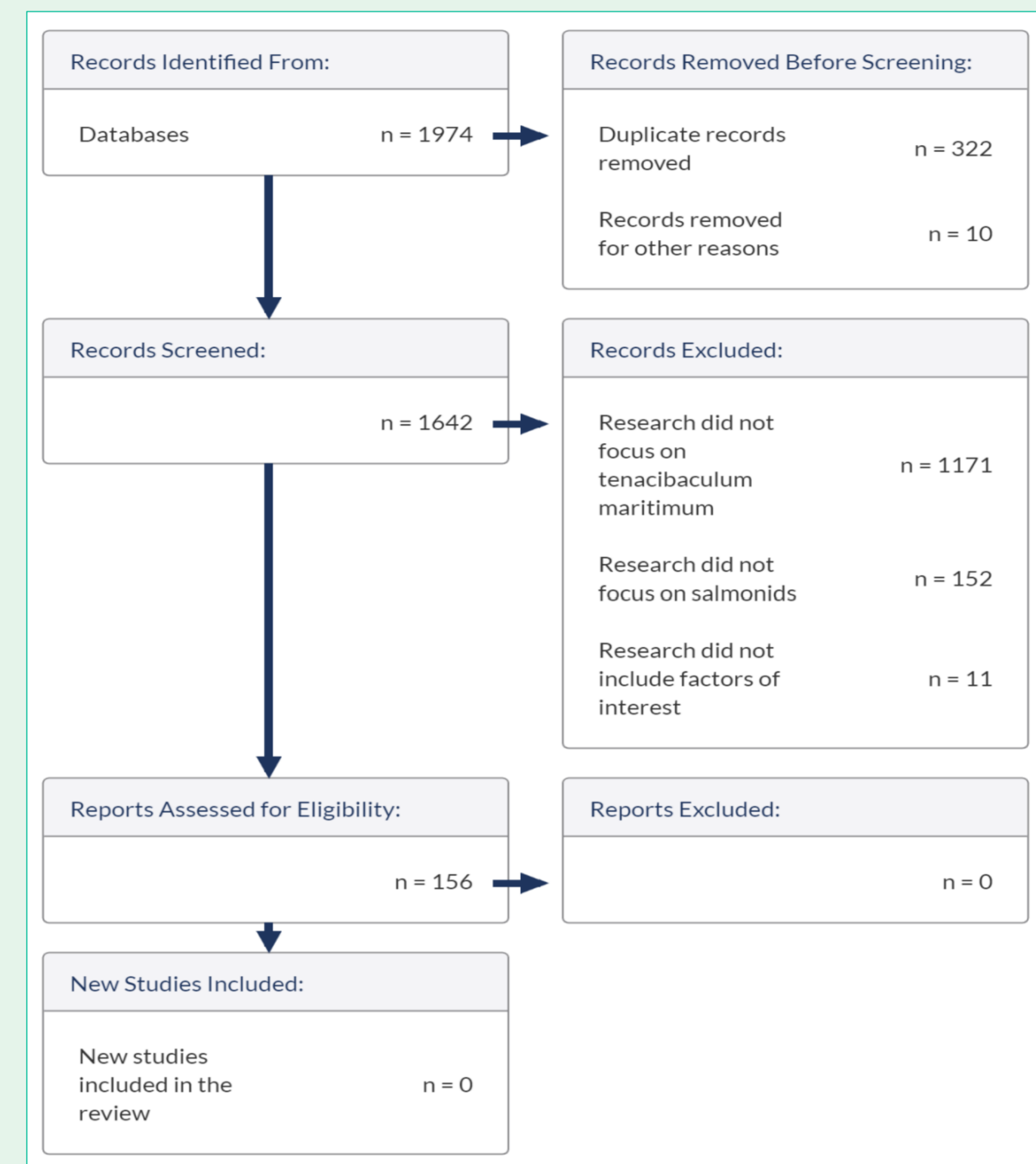


Figure 1. Adapted PRISMA flow chart for level 1 screening process.

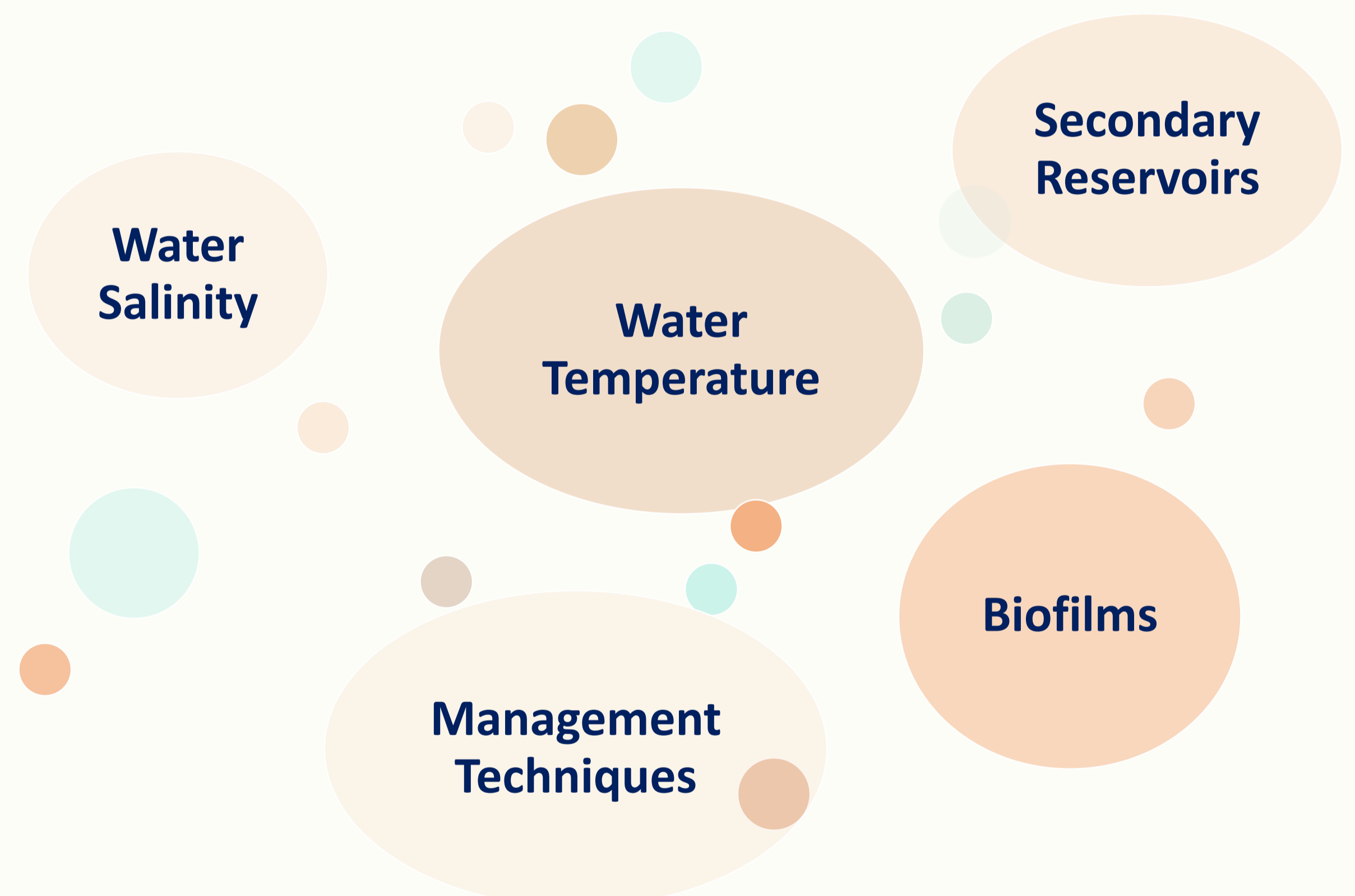


Figure 2. Summary of common factors noted in included articles during first round of screening.

Next Steps

- Complete secondary screening and data extraction for the 156 articles that remain after primary screening.
- Analyze the overarching themes of the scoping review and develop a narrative to synthesize the known data.

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