

## **Microbiological Monitoring From 2017 - 2020 in Saldanha Bay Shellfish Farms: An Assessment of Escherichia coli Prevalence in Mussels and Oysters**

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### **Abstract**

Microbiological monitoring programmes ensure compliance with regulations by shellfish farmers. The objective of this study was to evaluate the trends of Escherichia coli prevalence in Saldanha Bay shellfish farms using the microbiological sampling data provided by the Department of Agriculture, Forestry and Fisheries (DAFF) analysed between 2017 and 2020. The majority of the samples were collected in the Small Bay farms (N= 420), followed by Outer Bay (N=89) and Big Bay (N=59). Pearson's correlations were performed to test the relationship between E. coli counts and temperature and E. coli counts and rainfall. No significant difference was observed between these variables. Mean E. coli comparisons were performed between sampling locations and mussels and oysters. A significant difference was observed between the mean E. coli comparisons from various sampling points in Small Bay ( $f=1.960$ ,  $df= 13.406$ ,  $p=0.023$ ) with spikes that exceeded the South African Molluscan Shellfish Monitoring and Control Programme limit for Class A production areas (230 E. coli per 100g). The findings from this study thus recommend the need for consistency in the microbiological monitoring programme for future sampling runs to identify the spikes' sources. The study forms a baseline for future studies in this area.