

Tides of Contamination

Introduction

Our project investigates the impact of tidal estuaries on local beaches in Rosscarbery, West Cork. Our local beach, the Warren strand, has been polluted by *E. coli* for five years, affecting swimmers' health and local businesses. Our group is testing water to identify the cause and raise awareness for this ongoing issue. Estuaries collect sediment from agricultural runoff, sewage, and stormwater, which flows into nearby beaches during spring tides, increasing *E. coli* levels.

The Effects of Tidal Estuaries on Water Quality of Local Beaches



Testing

Since February 2024, we have been monitoring nitrate levels monthly using dip tests and 2-minute kick samples. We began *E. Coli* testing in October, took 12 samples in total of feeder streams, the Warren estuary, Owenahincha and the Warren strand at different tides and precipitation levels. The samples were then taken to Acorn Waters in Bandon, Co Cork to be tested for nitrates as well as *E. Coli*.

Conclusion

From research, sampling, and testing, we can conclude that the E. coli pollution occurs after heavy rainfall. Because of this we advise to public organisations like Cork County council to test beaches for E. Coli the days following rain rather than an arbitrary day each month until treatment facilities can be improved.

