CHARACTERIZATION OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) IN SMALL CRAFT HARBOUR (SCH) SEDIMENTS IN NOVA SCOTIA, CANADA



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Polycyclic aromatic hydrocarbons (PAHs) have been widely studied in sediments due to their ubiquity and persistence in aquatic environments as well as their potential for impairment to biota, yet their relation to small craft harbour (SCH) sediments in Nova Scotia, Canada, have yet to be studied comprehensively. This paper attempts to address the effects of PAH in Nova Scotia due to their potential influence on local biodiversity and in turn the Canadian fishing economy.

APPROACH:

This spatiotemporal characterization study evaluated thirty-one SCHs across Nova Scotia between 2001 and 2017 by analyzing sediment reports.

MAIN FINDINGS:

- This paper finds that sediment PAH concentrations varied widely across all SCHs.
- Few SCHs exhibit sediment PAH concentrations likely to impair biota based on comparison to sediment quality guidelines.
 - Results suggest that sediments of the Gulf region are the least impacted by PAHs, while the Southwest is the most impacted.
- Canso and Fox Point in the Southwest exhibit elevated concentrations of PAHs, that suggest frequent impairment to biota. Therefore, results suggest that these two SCHs should be prioritized by federal custodians for further assessment and delineation of PAHs.
- High molecular weight PAHs, especially Flu and Pyr, show the highest concentrations among samples, which aligns widely with trends from previous literature.

