Eutrophication and Harmful Algal Blooms in Withers Swash, Myrtle Beach, SC

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Abstract

The growth of harmful algal blooms (HABs) in coastal waters can have significant environmental and economic impacts. This study aimed to investigate the eutrophication levels and associated factors in Withers Swash, a coastal waterbody in Myrtle Beach, SC.

Hypothesis

The hypothesis was that higher levels of nutrients and dissolved oxygen would correlate with increased eutrophication and potential HABs.

Methods

A series of water samples were collected from various locations within Withers Swash over a span of several months. Nutrient levels, dissolved oxygen, and water temperature were measured using standard analytical techniques. The data were then analyzed to determine any correlations with eutrophication levels.

Results

The analysis revealed a significant increase in nutrient levels and dissolved oxygen in certain areas of Withers Swash, indicating a growing eutrophication problem. There was a strong correlation between these nutrients and the occurrence of HABs.

Conclusions

The study highlights the importance of monitoring and managing nutrient levels in coastal water bodies to prevent the growth of harmful algal blooms. Further research is needed to understand the long-term effects of this eutrophication on the ecosystem and its inhabitants.

Acknowledgments

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Table: Summary of Eutrophication Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrients</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Water Temperature</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>

Graphs and charts illustrating nutrient levels, dissolved oxygen, and temperature trends over time.