2014

Lake Quinsigamond Water Pollution

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Recommended Citation
Bailey, Marianna; Barrett, Craig; Grant, Allysa; Soylu, Basak; and Wey, Jessica, "Lake Quinsigamond Water Pollution" (2014). Great Problems Seminar Posters. Book 291.
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**Problem and Goal**

Due to runoff from the roads, major highways, the inhabitants that live in the lakes vicinity, and the industries on the shore, Lake Quinsigamond has become excessively polluted.

- Raise oxygen levels in the lake and decrease pH levels by implementing a solution.

**Pollutants**  
**Affects**

<table>
<thead>
<tr>
<th>Over-Nutrients:</th>
<th>Lowers Dissolved Oxygen Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus, Nitrogen</td>
<td></td>
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<table>
<thead>
<tr>
<th>Heavy Metals:</th>
<th>Lowers Dissolved Oxygen Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead, Copper, Zinc</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Constructions Waste</th>
<th>Increases pH Levels</th>
</tr>
</thead>
</table>

| Salt | Increases pH Levels |

**Our Research**

1. Researched history of the pollution in Lake Quinsigamond.
2. Interview: Ed Himlan (Mass. Watershed Coalition) and Heidi Ricci (Mass Audubon Society)
3. Analyze ten Samples each of pH and DO: I-290 (A), Boathouse (B), Shore (C), Route 9 (D).

*See map below*

**Final Solution Recommendation**

Bio-retention basins catch runoff pollutants that are causing problems in the lake particularly Phosphorus which causes over nutrients and bacterial pollutants which harm organisms in the lake.

**Implementation of Solution**

- Need minimum of 200 square feet
- Cost: $5,000-$10,000
- Build in Lake Quinsigamond State Park
- Contact MassDOT, Environmental Consulting Restoration, Worcester Public Works and Parks

**Average Dissolved Oxygen (DO) and pH Levels**

*Current data taken from our data sampling. Data from 1995-2012 taken from EPA.*

**Data Sampling Instruments**

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