Trading Scenario for Domestic Non-Point Source Reduction: Regionalization and Home Inspection Program for Unsewered Communities

Brady Skaggs
LDEQ Update

• Rapid suburban development has exceeded the pace of sewage infrastructure development, with Orleans and Jefferson Parish having the most extensive sewage collection and treatment systems in the State.

• Household waste in Suburban and Rural communities is done by aerated treatment units (ATUs) of 500 to 1500 gallons per day.

• Approximately 2/3rds of St. Tammany Parish domiciles are served by ATU systems.

• Approximately 50% of neighborhood ATU systems are non-functional.
Non-Point Source Reduction: WQ Trading

Home Inspection Program

Connection to Sewerage: Regionalization
St. Tammany Parish
Non-Point Source Reduction: WQ Trading

Pre-Inspection

<table>
<thead>
<tr>
<th>Parameter</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
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<tr>
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Post-Inspection

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<td>Total Phosphorus as P</td>
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<td>15.6</td>
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<tr>
<td>Total Nitrogen</td>
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Septic System

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3.24           0.06          2.00           1.70107623
19.90          0.10          11.87          10.4145731
49.10          38.20         44.50          5.64535207
27.10          19.50         23.07          3.8214308
64.70          46.20         56.33          9.37567775
18.7           15.7          17.2           2.12132034
80.0           60.0          70.0           14.1421356
0.1            0.1           0.1            0
0.1            0.1           0.1            0
0.1            0.1           0.1            0
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15.6           14.5          15.1           0.77781746
27.6           24.4          26.0           2.2627417
## Connection to Sewage

### Connection of St. Tammany Parish Neighborhood to Sewage Treatment*

<table>
<thead>
<tr>
<th>Neighborhood Name</th>
<th>Number of Homes</th>
<th>Gallons per Day (MGD)</th>
<th>BOD Improvement (lb/day)</th>
<th>TKN Improvement (lb/day)</th>
<th>Total Oxidizable Material (lb/day)</th>
<th>Total Phosphorus (lb/d)</th>
<th>Cost for Regionalization*</th>
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<td>13.78</td>
<td>1.37</td>
<td>26.96</td>
<td>0.67</td>
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<tr>
<td>Fisherman’s Haven, Lacombe</td>
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*Figures are estimates and subject to change based on further investigation and data collection.*
## Connection to Sewage

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<thead>
<tr>
<th>BOD Reduction ($/lb)</th>
<th>TKN Reduction ($/lb)</th>
<th>Total Ox Reduction ($/lb)</th>
<th>Total Phosphorus Reduction ($/lb)</th>
<th>BOD Cost per Year ($/yr)</th>
<th>TKN Cost per Year ($/yr)</th>
<th>Total Ox Cost per Year ($/yr)</th>
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## Home Inspection Program

### LPBF Homesystem Inspection Program - Projected Costs for Neighborhoods in St. Tammany Parish

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<th>Neighborhood Name</th>
<th>Number of Homes</th>
<th>Gallons per Day (MGD)</th>
<th>BOD Improvement (lb/day)</th>
<th>TKN Improvement (lb/day)</th>
<th>Total Oxidizable Material (lb/day)</th>
<th>Total Phosphorus (lb/d)</th>
<th>Cost for Home Inspection Program</th>
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# Home Inspection Program

<table>
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<tr>
<th>BOD Reduction ($/lb)</th>
<th>TKN Reduction ($/lb)</th>
<th>Total Ox Reduction ($/lb)</th>
<th>Total Phosphorus Reduction ($/lb)</th>
<th>BOD Cost per Year ($/yr)</th>
<th>TKN Cost per Year ($/yr)</th>
<th>Total Ox Cost per Year ($/yr)</th>
<th>Phosphorus Cost per Year ($/yr)</th>
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<tbody>
<tr>
<td>$385.75</td>
<td>$7,572.89</td>
<td>$222.42</td>
<td>$14,388.49</td>
<td>$771.50</td>
<td>$15,145.78</td>
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<tr>
<td>$385.75</td>
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<td>$15,145.78</td>
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<td>$385.75</td>
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Next Steps

• Trade Discussion in different formats:
  • Bilateral negotiation
  • Brokered trade
  • Exchange market?

• Program Design and Framework: Next Stakeholder Meeting