Preliminary Assessment of PFAS Presence - Town-wide Planning Approach

Town of Nantucket, MA

Andrew Miller, P.E.
Island-Wide PFAS Assessment Objectives

- **Short-Term**
  - Identify key potential and known PFAS sources and receptors
  - Initiate unified planning approach to Town-wide PFAS source control and reduction

- **Long-Term**
  - Protect drinking water resources
  - Maintain compliance with state and federal regulations
  - Protect community wellbeing and health
  - Promote good health of natural and ecological resources
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- Identify key potential and known PFAS sources and receptors
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- Protect drinking water resources
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Objectives of this Preliminary Assessment DO NOT:
- Rank or weigh potential and known PFAS sources
- Determine individual stakeholder PFAS management responsibility
- Collect samples of various media to support PFAS characterization
Scope of Work

- Understand Island-Wide PFAS Cycle on Nantucket
  - Identify key potential / known sources and migration pathways through interviews and document reviews

- Qualitatively assess potential PFAS migration and exposure pathways

- Initiate development of PFAS source control and reduction planning action items

- Develop Town-wide public communication and outreach strategy
PFAS Cycle – Town-wide

Definitions:
AFF: Aqueous Film Forming Foam
MSW: Municipal Solid Waste
PWS: Public Water Supply
WW: Wastewater
WWTF: Wastewater Treatment Facility

Legend:
Human transport pathways
Environmental migration pathways

Figure 3-3
Preliminary Conceptual PFAS Cycle for Nantucket, MA
PFAS Cycle – Nantucket Solid Waste Management Facility
## Qualitative Assessment of PFAS Concern

<table>
<thead>
<tr>
<th>Area of Assessment¹</th>
<th>Potential PFAS Source</th>
<th>Impacted Media</th>
<th>Potential Receptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport</td>
<td>Past AFFF use</td>
<td>DW, GW, Soil</td>
<td>- Domestic Wells near Airport</td>
</tr>
<tr>
<td>Compost Use at Residents/ Businesses</td>
<td>Compost comprised of WWTF residuals and MSW</td>
<td>Soil, GW</td>
<td>- Gardening and human consumption - Drinking Water Wells²</td>
</tr>
<tr>
<td>Municipal Fire Protection and Fire Suppression Systems</td>
<td>Class B Foams</td>
<td>GW, SW, DW, Soil</td>
<td>- Drinking Water Wells²</td>
</tr>
<tr>
<td>Private Septic Systems</td>
<td>PFAS containing consumer products</td>
<td>GW</td>
<td>- Drinking Water Wells²</td>
</tr>
<tr>
<td>Solid Waste Management</td>
<td>Unlined Landfilled MSW and onsite soil and compost piles</td>
<td>GW, SW, DW, Soil</td>
<td>- Domestic Wells - Fish &amp; shellfish in Long Pond - Wetlands biological species</td>
</tr>
<tr>
<td>WWTF Effluent and Residuals</td>
<td>- Sewer collection - Septage haulers - Landfill leachate</td>
<td>Residuals -&gt; compost</td>
<td>Refer to Compost</td>
</tr>
<tr>
<td>WWTF discharge -&gt; GW</td>
<td></td>
<td></td>
<td>- Ocean - Private public supply wells near Surfside WWTF infiltration beds</td>
</tr>
<tr>
<td>Zone II Wellhead Protection Area</td>
<td>Unknown</td>
<td>DW, GW</td>
<td>- Municipal wells (Zone II)</td>
</tr>
</tbody>
</table>

¹Area of Assessment in alphabetical order  ²Drinking water wells include public supply (including Zone II) and private wells  
³Zone II is Commonwealth of Mass. wellhead protection area
Town Testing Status – Public Water

- Municipal Public Water Supply
  - Wannacomet Water Company detected no PFAS concentrations above the MassDEP PFAS6 Safe Drinking Water Standards
    - Results available on Town’s PFAS webpage
  - Siasconset Water Department testing pending
Town Testing Status – Compost

- 2019 Sampling
  - Sampling conducted to maintain proactive approach to environmental quality on the Island
  - Data not verifiable as PFAS sample protocols were not followed and laboratory not approved by MassDEP at the time
  - Only leaf/yard waste compost currently available due to site excess; compost (residual/MSW) no longer available since 8/2019

- 2020 Sampling
  - October 2020 sampling required by MassDEP AOS permit
  - Undergoing data evaluation
    - No MassDEP and federal agency standard/guidance is available to evaluate level of risk from PFAS in compost
    - Other state standard/guidance, such as MaineDEP, is being considered to inform on public health considerations of compost use
    - Town is collaborating with stakeholders on a public fact sheet to communicate compost sampling results
PFAS Town-Wide Source Control and Reduction Planning Action Items

- Research to fill source and exposure data gaps
- Sampling program to further assess potential community exposure
  - (drinking water, compost, soils, groundwater, surface water)
- Continuously update Island-wide PFAS Cycle
- Collaborate on PFAS assessment at Airport under MCP
- Support MassDEP in investigation(s) of potential PFAS sources relative to domestic well water testing by homeowners
- Public outreach planning and implementation
- Stakeholder communication team facilitation
- Development of source reduction strategies
Challenges

- Limited data currently available
- Lack of regulations regarding compost, biosolids
- New information continued to present itself in various form; not always clear
- PFAS Cycle is a living document to be updated as new information becomes available
- Ongoing public inquiries expressing concerns (drinking water, vegetables grown using compost product)
- Numerous stakeholders with specific relevant needs and concerns
Town Key Messages

- All stakeholders play a role in maintaining community trust and confidence in Island-wide PFAS activities.
- Overall objective is a holistic approach to protect the community and natural resource assets (drinking water).
- Negligent practices were not identified, as PFAS sources on the Island are not from industrial practices.
- New PFAS mass loading on the Island is limited to municipal solid waste generation and wastewater.
- Development of action items to further assessment and Island-wide source control and reduction have been commenced.
- Unified multi-stakeholder public outreach strategy is vital to successful risk communication to the affected community.