Preparing for Effective, Adaptive Risk Communication about PFAS in Drinking Water, Water Reclamation, and Residuals

Sarah Baryluk
Melissa Harclerode
Heather Lanza
John Frangos

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CDM Smith

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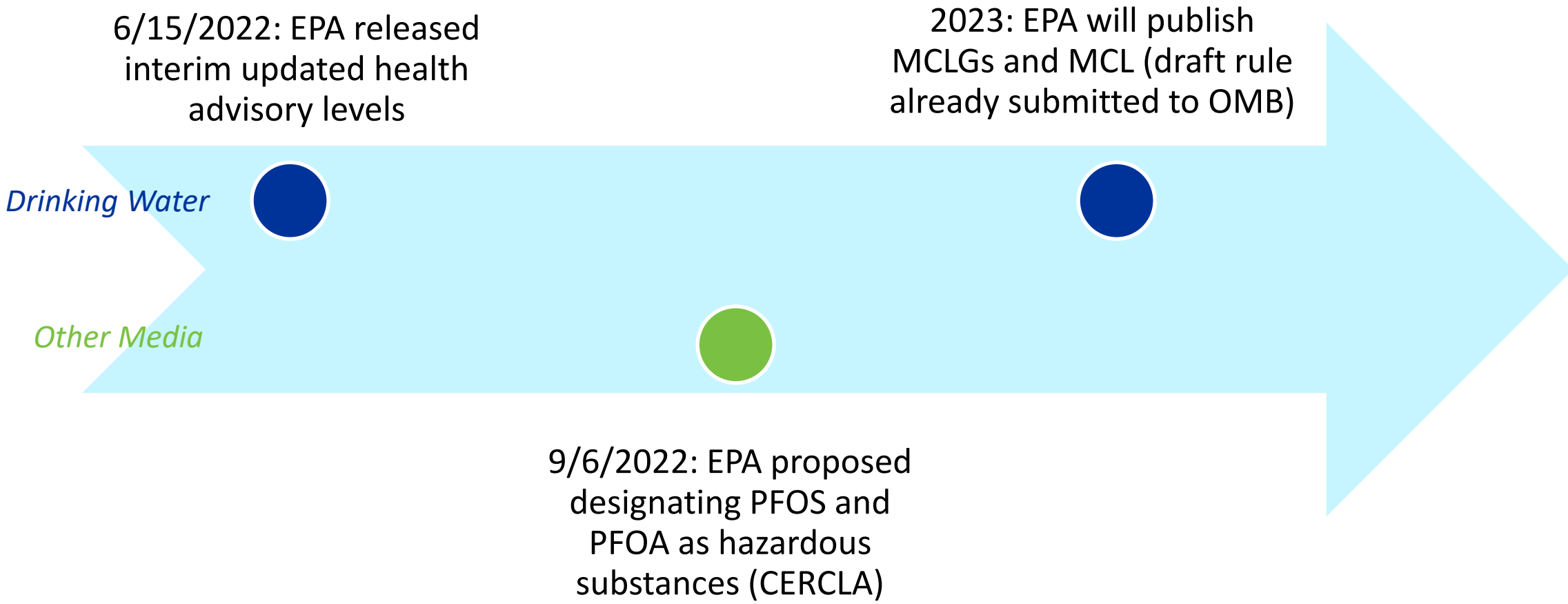
Risk Communication Challenges

Regulatory	▪ Federal and state standards, guidance, and policies for PFAS not uniform ▪ Only available for a handful of compounds
Fate and Transport	▪ Complicated due to the potential of multiple sources ▪ Persistence and migration in the environment
Toxicological/ Epidemiological	▪ Risks not fully known or characterized ▪ Blood testing available, but not diagnostic or prognostic
Technical	▪ Difficulty in distinguishing between low levels of PFAS from consumer product use and PFAS industrial use contamination
Analytical Ability	▪ Numerous PFAS compounds in existence, yet not all can be measured
Quality of Life	▪ Community outrage due to involuntary risk ▪ Misinformation and misperception of risk

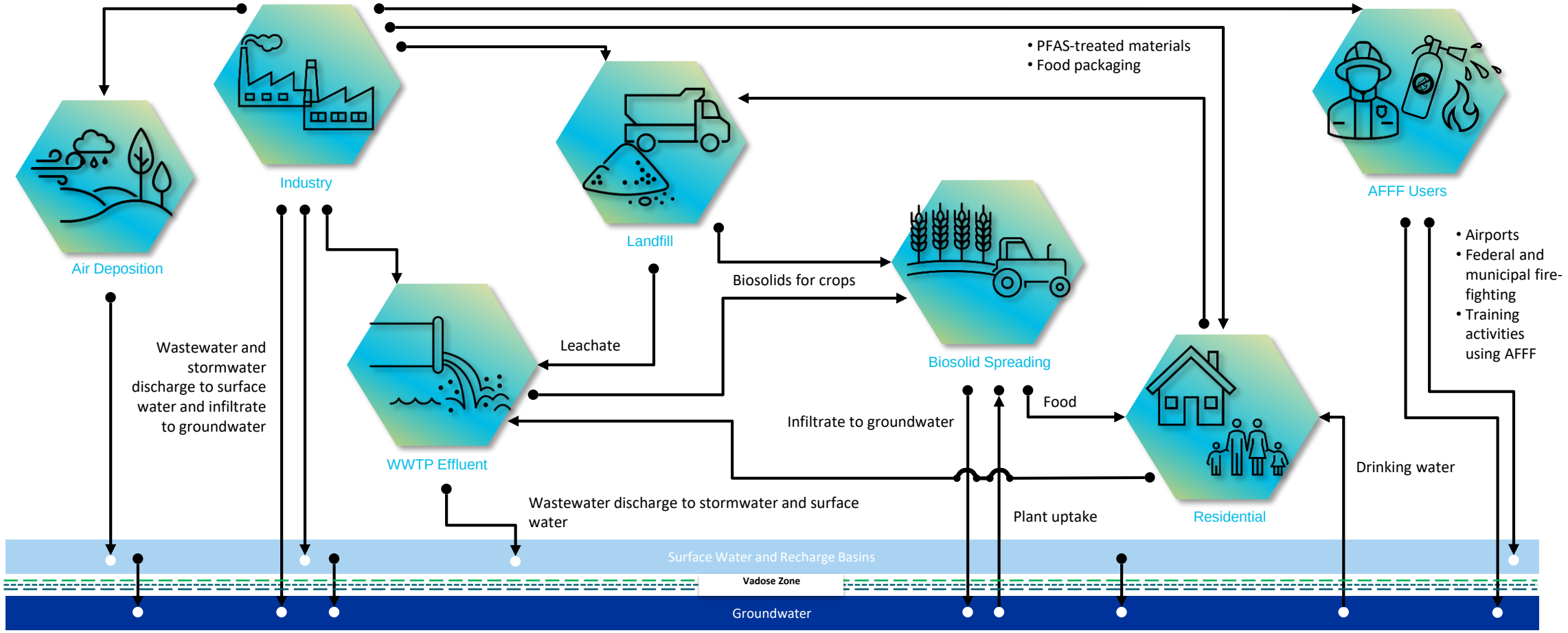
Evolving Regulatory Context

Regulatory Changes



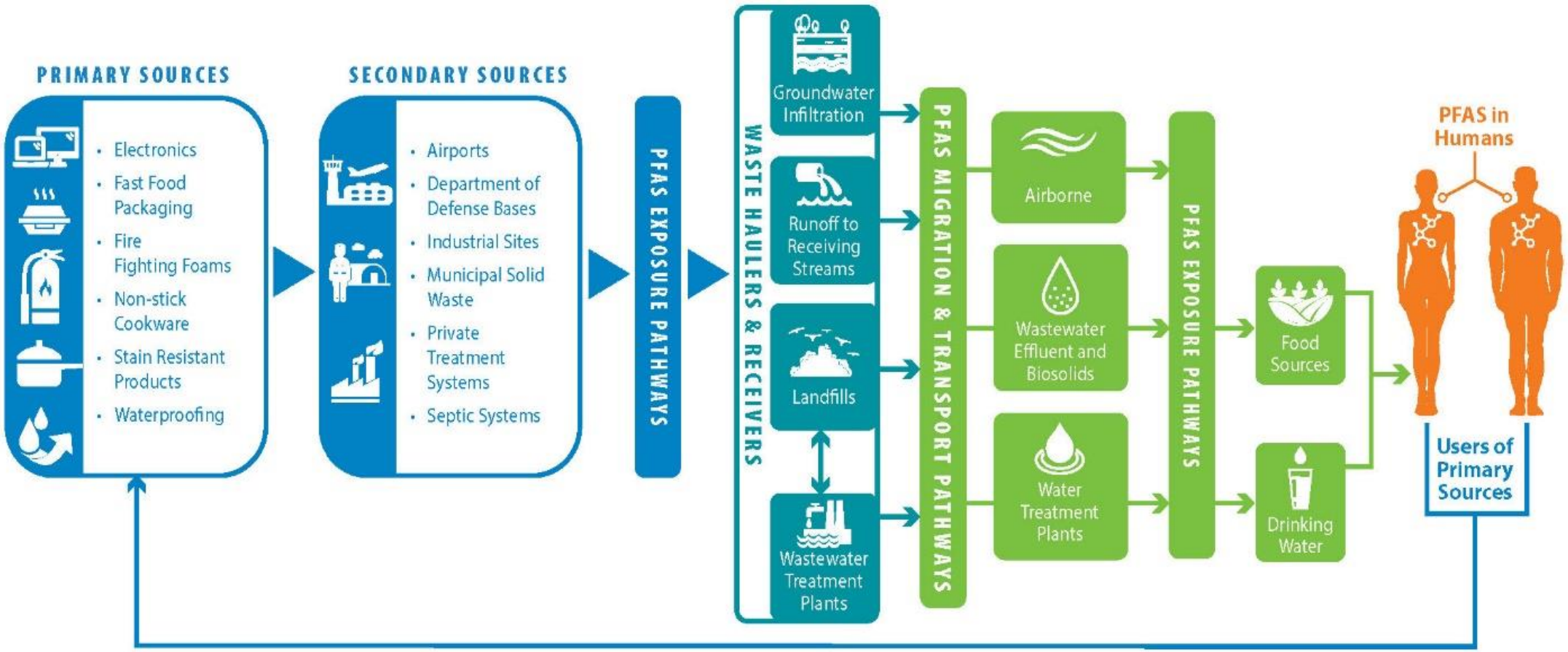
Risk Communication

PFAS Risk is Complicated



WWTP = wastewater treatment plant

Overcoming Risk Communication Challenges: Build a Community-Specific PFAS Cycle



Community-Specific PFAS Cycle Example

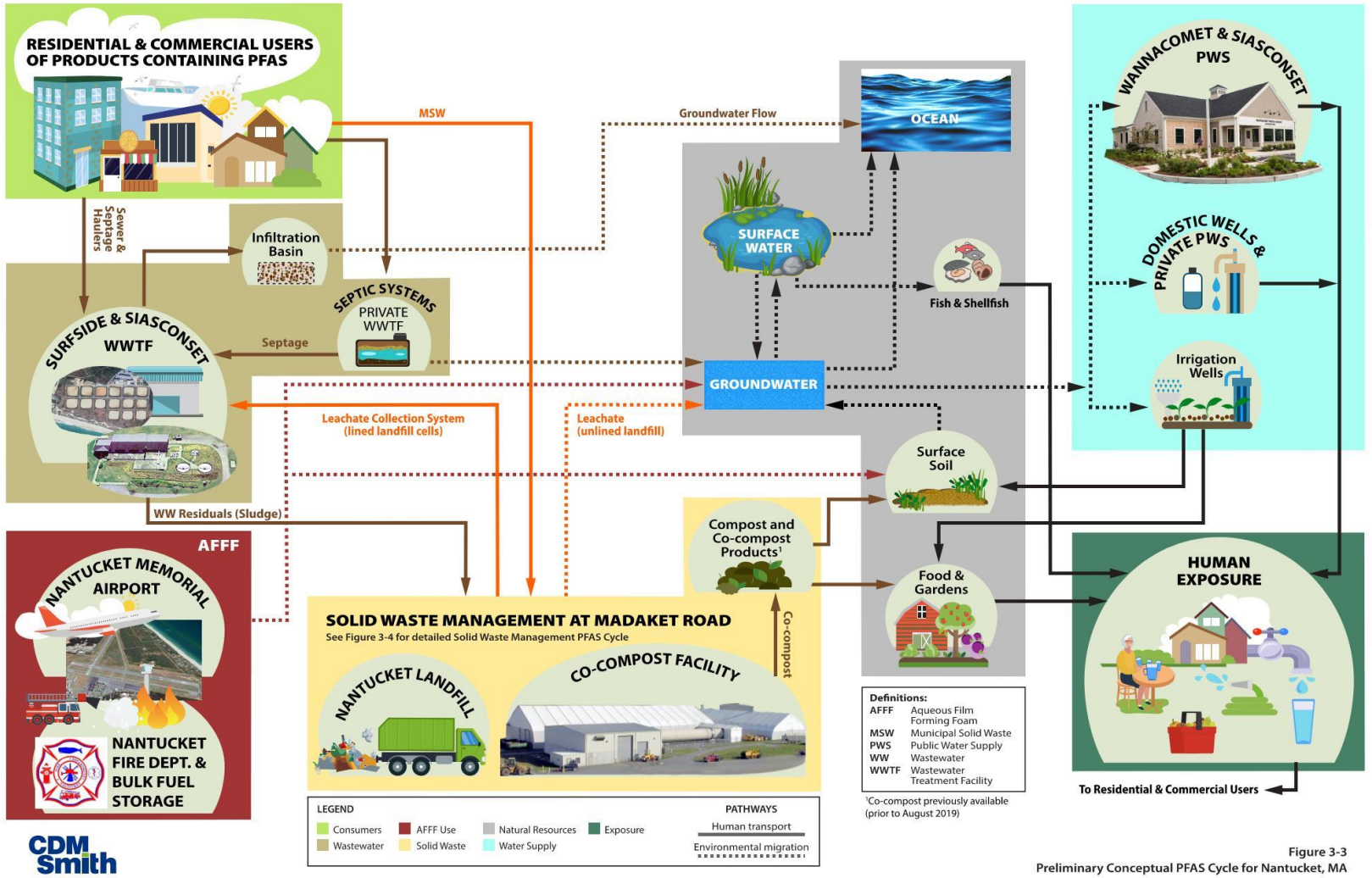
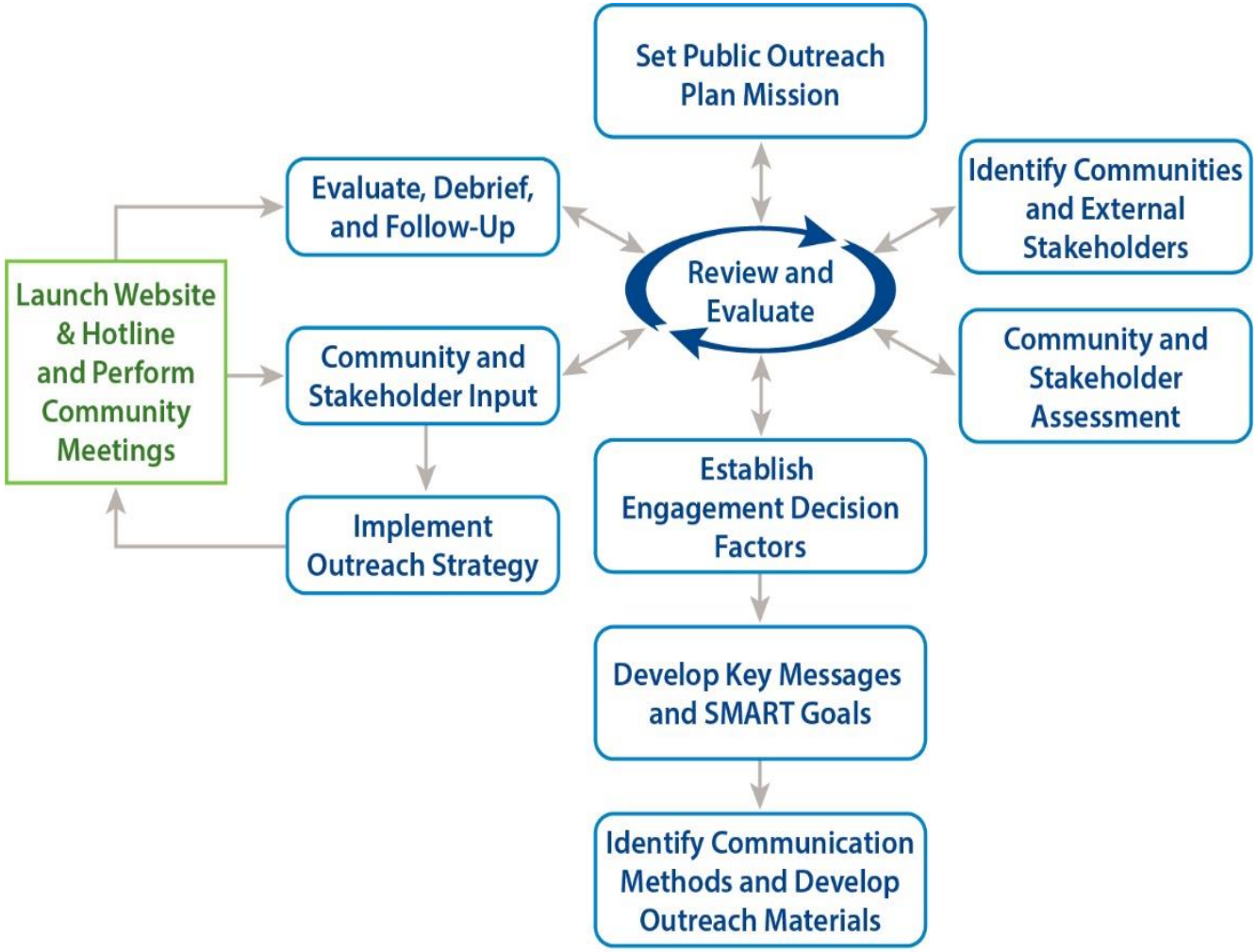


Figure 3-3
Preliminary Conceptual PFAS Cycle for Nantucket, MA

Develop Public Outreach Strategy and Plan

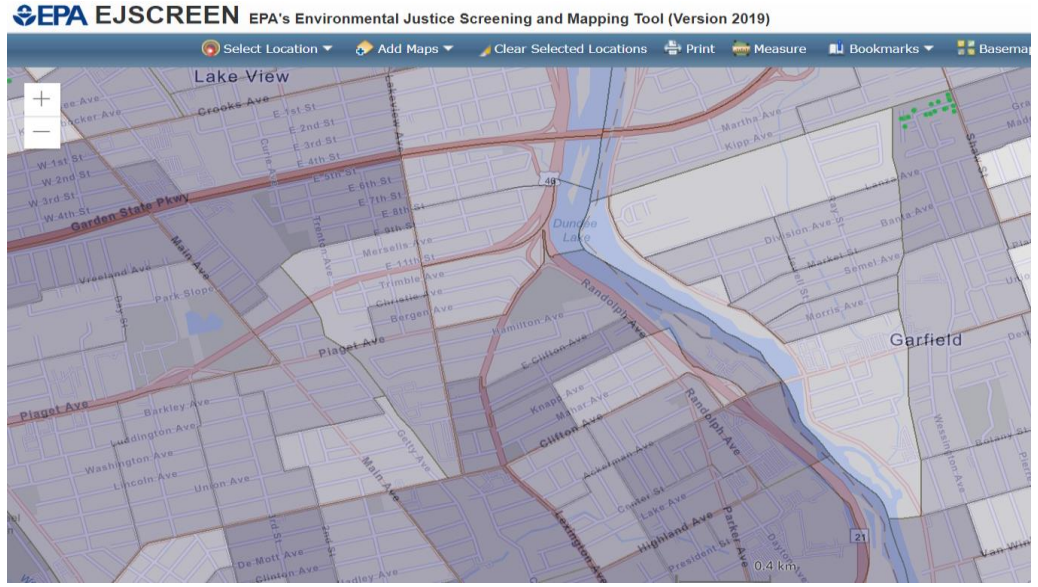
- Formalized outreach framework
- Communicate PFAS cycle and assessment actions

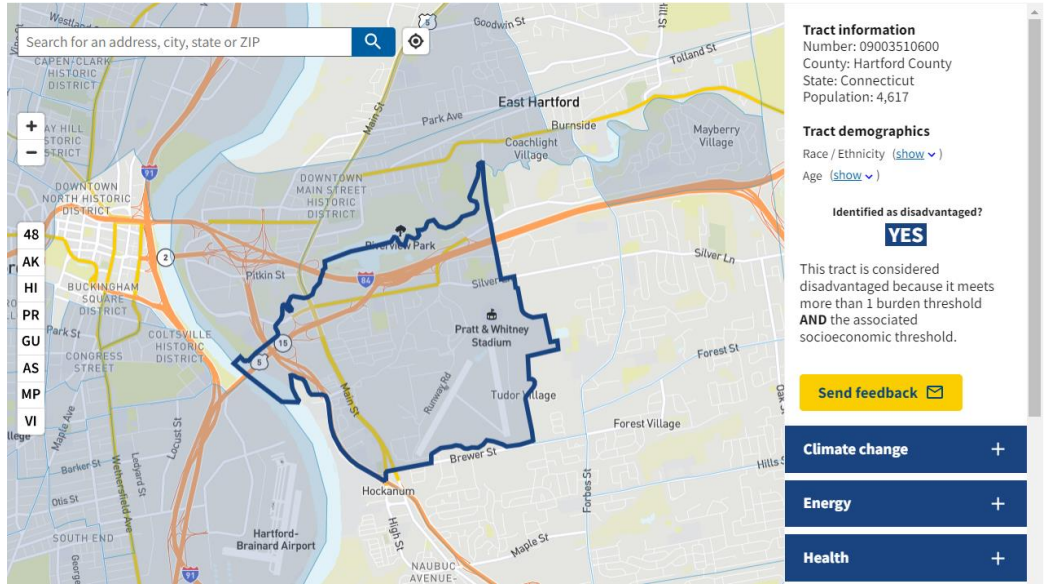


Modified from NJDEP 2014. Establishing Dialogue: Planning for Successful Environmental Management, K. Kirk Pflugh, J. Auer Shaw, B. B. Johnson; New Jersey Dept. of Environmental Protection [Updated from 1992]

Consider Environmental Justice Populations

- Disadvantaged populations
- Customer profiles
- Customer values





Key Message Tips

Be transparent about what you know and **do not** know

Clearly state what regulations apply

Give actions those involved can take to protect themselves from PFAS in general

Goal: Show a proactive response that listens to concerns

Communicating Key Messages

- Focus on accessibility and readability
- Leverage existing community networks
- Use community's preferred communication modes
- Set and evaluate public outreach and communication SMART goals

Integrating Community Assessment Findings

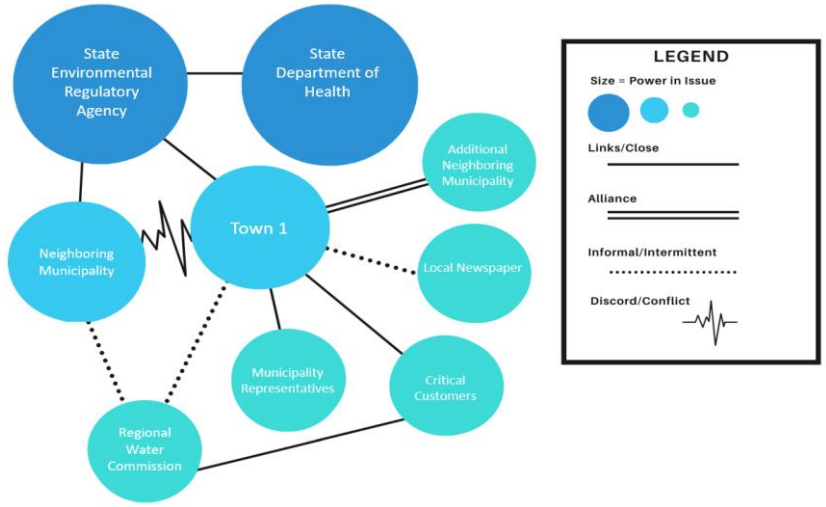
Select Community Assessment Findings	Select PFAS Community Risk Perception Factors	Select Key Message Topics
Concern from community members about health advisory levels (HALs) and exposure implications	Role and extent of state and federal oversight and regulations to address public health concerns Gratitude and relief for proactive sampling and proactive communications Ability to reduce or eliminate personal exposure	HALs are designed to be protective of the most vulnerable population and are not to be used the same as regulations PFAS regulations and standards are specific to sample media and exposure routes, and cannot be applied broadly to multi-media sampling results Utility will continue to sample and compare results against applicable levels to evaluate health risk

Integrating Community Assessment Findings

Select Community Assessment Findings	Select PFAS Community Risk Perception Factors	Select Key Message Topics
PFAS have been found in biosolids generated at the local WWTP and there is community concern about beneficial reuse	Difference between point and non-point sources of PFAS to the wastewater collection system	Community can play a role in reducing PFAS loading from general refuse and other commercial products
	Ability to reduce personal exposure	As sampling continues, results will be shared with the public within the context of the community-specific PFAS cycle
	Ability to reduce and eliminate PFAS-laden commercial product use	A plan to further assess and eventually control or mitigate PFAS sources to the WWTP is underway

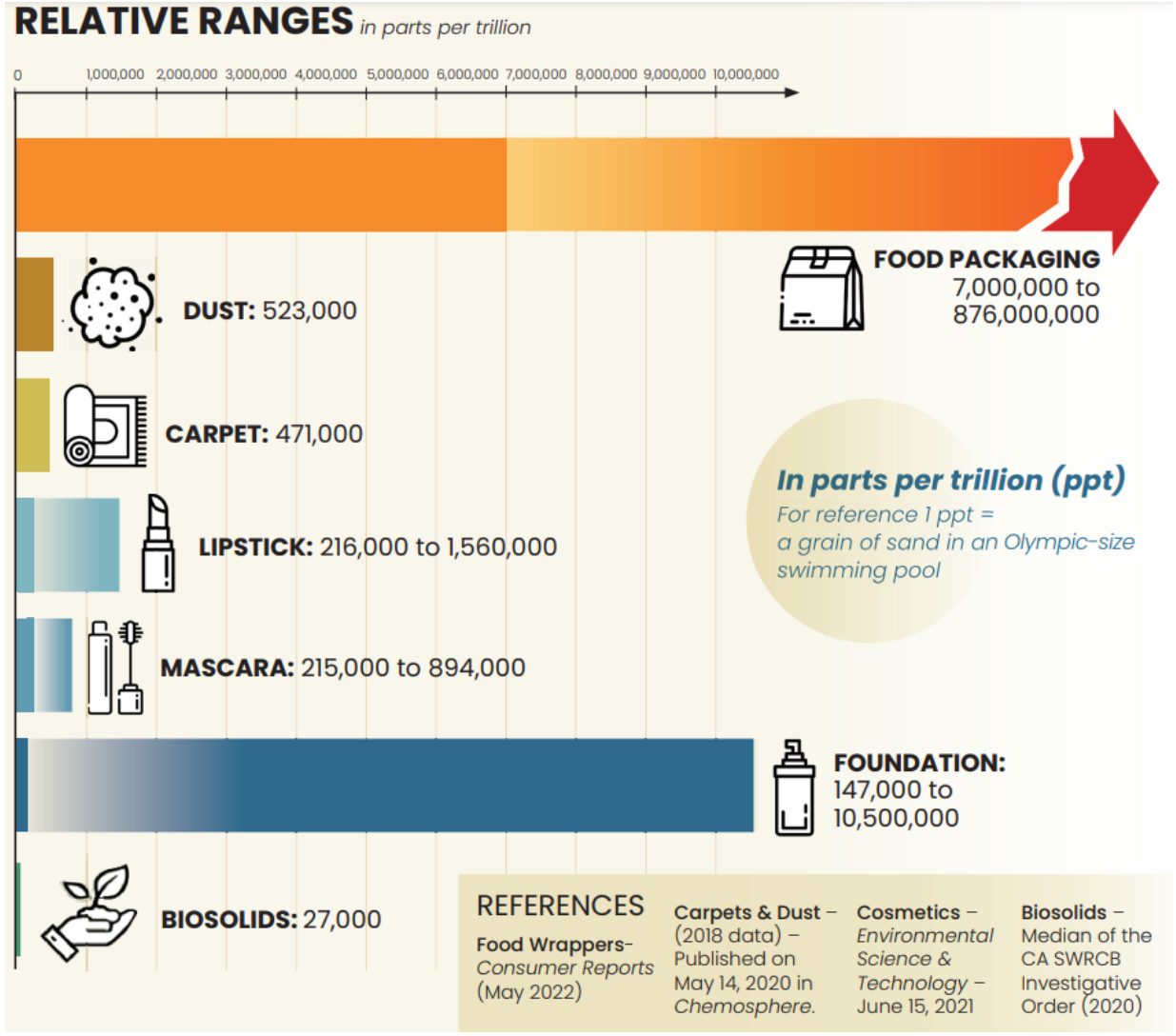
Risk Communication Planning Lessons Learned

- Capture unique relationships via stakeholder mapping and collaboration tools
- Ground-truth community assessment results
- Leverage public interest and engagement
- Contextualize sampling within community-specific cycle and applicable regulations



Engagement decision factor: Prepare fact sheet to address recent PFAS detections above screening criteria	Stakeholder						
	Town Administration	Department of Public Works	Sewer Department	Drinking Water Utility	Health Department	Town Elected Officials	Citizen Action Group
Draft Materials	R/A	C	C	C	C	I	C/I
Review Materials	R/A	R	R	R	R	I	C/I
Finalize Materials	R/A	C	C	C	C	I	I
Approve Materials	A	A	A	A	C/A	I	I
Distribute Materials	R/A	I	I	R/I	I	I	R

Wastewater and Biosolids Risk Communication



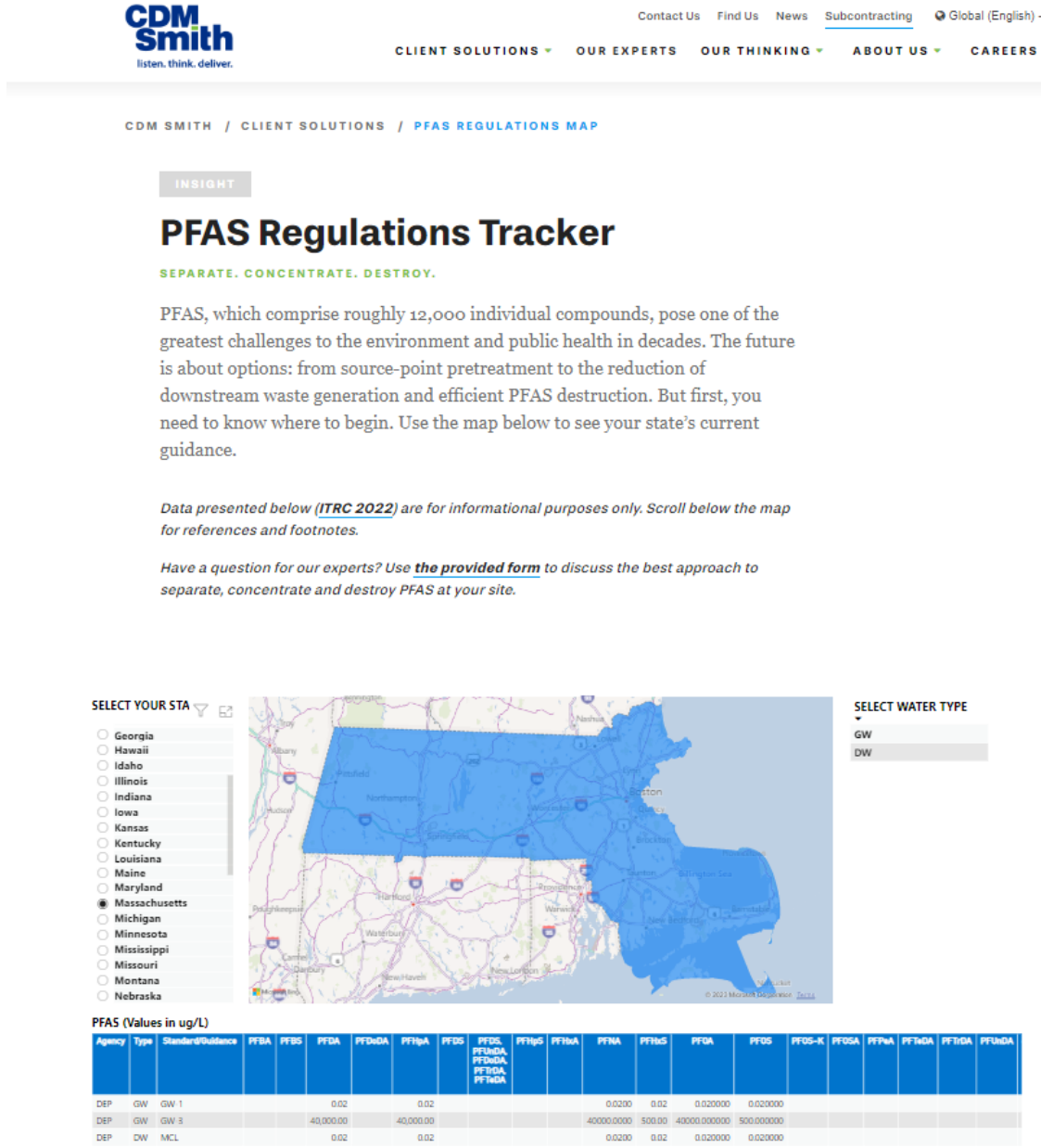
Source: CASA, https://static1.squarespace.com/static/54806478e4b0dc44e1698e88/t/63231956ab2d672152b7a5a2/1663244631201/Bar+Chart+PFAS+2022%5B3%5D.pdf

Wastewater and Biosolids Risk Communication

- PFAS in biosolids are relatively low compared to other household sources (food packaging, make-up)
  - *However, be cautious* when communicating the concentration of PFAS in biosolids relative to household sources
  - Accurately present relative risk
  - Be sensitive to community concerns when making comparisons to other materials
- Communication balancing act – land application of biosolids is beneficial
- "Sources" are likely to include generalized consumer use of PFAS-containing products

Resources

- CDM Smith guidance tracker: free informational tool routinely updated with state and federal guidance
- Water Environment Federation PFAS Resources: https://www.wef.org/pfas
- ITRC PFAS Toolkit: https://pfas-1.itrcweb.org/
- Water Research Foundation One Water Toolkit
- Water Research Foundation UCMR5 Toolkit



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Water Partnership with CDM Smith

Sarah Baryluk

CDM Smith

703-691-6419

baryluksf@cdmsmith.com