Evaluating Targeted Industries for PFAS Use

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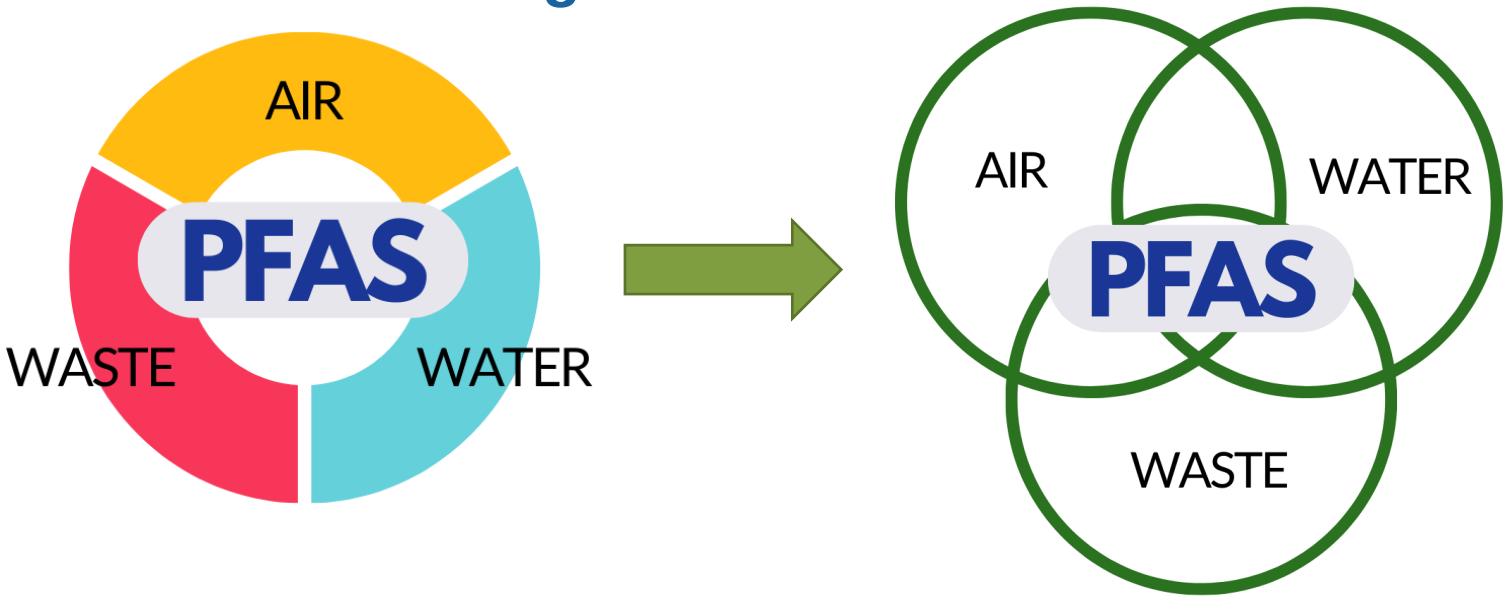
PFAS Sources and Multimedia Impacts

Objective is to develop a unified approach to identifying regulated industries evaluating sites that manufacturer, produce, handle, or generate PFAS



Next steps are to identify PFAS that have been reported to be associated with each industry, determine knowledge gaps, and develop targeted case studies.

Summary of Industries Suspected of Handling PFAS

- Industries were identified through the following reports, regulatory databases (i.e., EPA), and Federal Registry.
- Sources
  - EPA References
    - PFAS Roadmap
    - Preliminary Effluent Guidelines Program Plan 15
    - Proposed Designation of PFOA and PFOS as CERCLA Hazardous Substances
    - ANPRM Comments
    - National Datasets
  - ASDWA PFAS Source Water Protection Guidance Project: Technical Appendix

Summary of Industries Suspected of Handling PFAS

- 387 unique industries
- 23 Sectors

Based on NAICS Codes

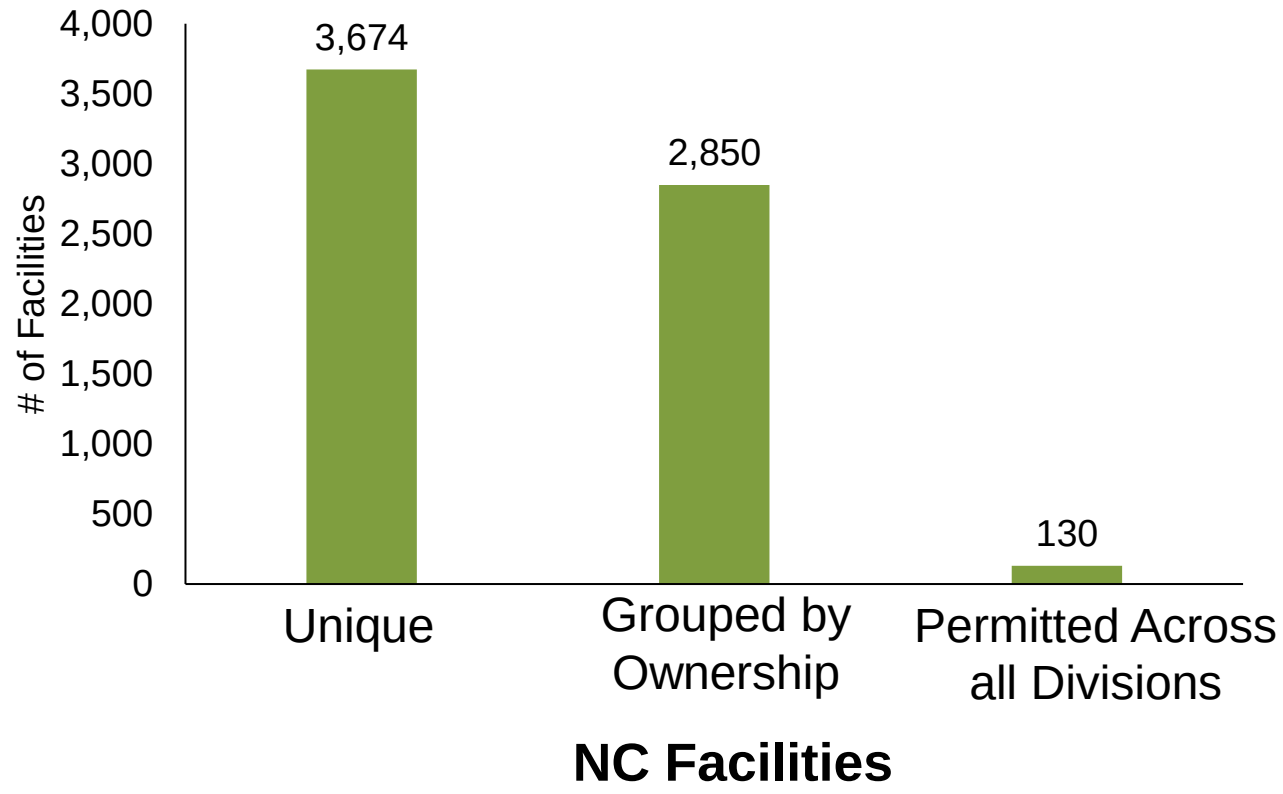
Over 70% of the industries are in the manufacturing sector (31-33)

Summary of Industries Suspected of Handling PFAS

Sector	# of Industries
31-33 Manufacturing	270
23 Construction	21
21 Mining, Quarrying, and Oil and Gas Extraction	15
56 Administrative and Support and Waste Management and Remediation Services	15
22 - Utilities	13
51 Information and Cultural Industries	9
44-45 Retail Trade	7
42 Wholesale Trade	5
48-49 Transportation and Warehousing	4
72 Accommodation and Food Services	4
92 Public Administration & Government	4
11 Agriculture, Forestry, Fishing and Hunting	2
35 Industrial And Commercial Machinery And Computer Equipment	2
53 Real Estate and Rental and Leasing	2
54 Professional, Scientific, and Technical Services	2
81 Other Services	2
13 Oil And Gas Extraction	1
61 Educational Services	1
71 Arts, Entertainment, and Recreation	1

Identification of NC Multimedia Permitted Facilities with PFAS Industry Codes

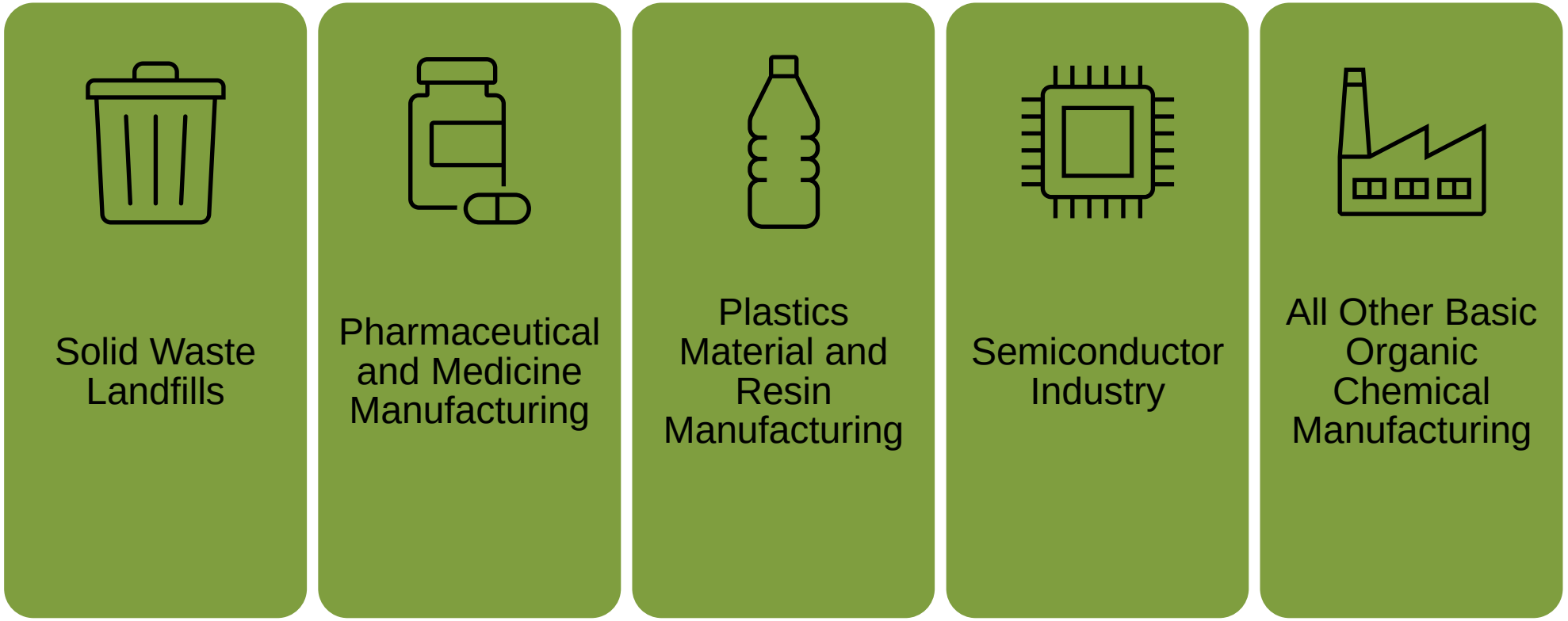
- Master list of PFAS industry codes was crosswalked with permitted facilities within each division and combined.
- Priority was to identify facilities that hold active permits within DWR, DWM, and DAQ. Future efforts will expand to the remaining division only facilities.



Summary of Facilities Types that Intersect Water, Waste, and Air

- Facilities spanned across 32 industries

List of Industries



* Based on the number of facilities not PFAS mass

Case Study Prioritization – Where do we start?

- Used a top-down and bottom-up approach to seek feedback on prioritization of the top 14 industries.
- Collect feedback on the reaction to the industries that were shortlisted and adjust based on a more applied understanding of facilities across NC.
- Understand that we will not be able to tackle all industries at once but need to start somewhere.

Parallel Efforts to Build our PFAS Knowledge

New Megasite Permitting

Strategic Plan Efforts

Multimedia PFAS Working Groups

Multimedia Working Group Approach Discussion

Approach

- Each division identify 1-2 members to serve on the working group based on the case study industry
  - Consider your division PFAS lead, permit engineer, and/or inspector
- Weekly meetings to discuss the facility/industry between all divisions
- Includes periodic mini research or reading assignments (up to 1 hr/wk)
- Overall time commitment would be up to 2 hrs per week

Outcomes

- Expand NCDEQ's PFAS knowledge
  - Build additional capacity to handle PFAS within the divisions
  - Finding, understanding, and translating PFAS information
- Educational resources
  - Technical memos, guidance for permit engineers by industry, expand PFAS database
- Enhance risk communication
- Report back to senior leadership
- Develop next steps to collect data and and/or make regulatory decisions

Outputs

- Development of an Emerging Contaminants Screening Questionnaire
  - Respond with targeted questions when a facility says “no” to all questions
  - Obtained PFAS information from megasites
- Educational resources
  - Technical memos, guidance for permit engineers by industry, expand PFAS database
- Enhance risk communication
- Report back to senior leadership
- Develop next steps to collect data and and/or make regulatory decisions

How can I determine my PFAS Footprint?

Safety Data Sheet

P310	Immediately call a POISON CENTER/doctor.
Storage	Not available.
Disposal	Not available.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Fluoxetine Hydrochloride	(3S)-N-methyl-3-phenyl-3-[4-(trifluoromethyl)phenoxy]propan-1-amine hydrochloride	56296-78-7	4 - 20

Composition comments Remaining components of this product are non-hazardous and/or are present at concentrations below reportable levels.

4. First-aid measures

Safety Data Sheet

GHS label elements

Not a hazardous substance or mixture.

Other hazards

The thermal decomposition vapors of fluorinated plastics may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Substance
Substance name	:	Poly(Heptafluoropropyl Trifluorovinyl Ether/Tetrafluoroethylene)

Safety Data Sheet

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS:

COMPONENT	CAS. NO	%	TLV (ACGIH)	PEL (OSHA)
POLYTETRAFLUOROETHYLENE	9002-84-0	100	NOT ESTABLISHED*	NOT ESTABLISHED

*MINIMIZE EXPOSURE TO POLYTETRAFLUOROETHYLENE DECOMPOSITION PRODUCTS.

Safety Data Sheet

REGULATION (EC) No 1272/2008
Not a hazardous substance or mixture

SECTION 3 - Composition/information on ingredients:

PTFE CAS # 9002-84-0

SECTION 4 - First-aid measures:

Resources and Input to Develop an Understanding of Industrial PFAS Use

- EPA PFAS Analytic Tools
- Technical Reports
  - Federal, state, and local studies/action plans
- Scientific Literature
- Permits (application, RAI, and public comment)
- Leveraging Academic Researchers
- Company Stakeholder Update Presentations
- Patents
- Climate/Sustainability Reports
- E.U. REACH Documentations
- Reverse Engineering Effluent Data