NEW JERSEY DEP
Division of Water Monitoring, Standards & Pesticide Control

Anticipated Amendments to the Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B

- *Updated definitions, new significant figures policy, revision to site-specific criteria language*
- *New freshwater criterion for 1,4-dioxane, based on drinking water exposure*
- *Updated human health criteria for 94 toxic substances*
- *New freshwater and saline water criteria for PFNA, PFOA, and PFOS*

Department of Environmental Protection
Division of Water Monitoring, Standards and Pesticide Control
Bureau of Environmental Analysis, Restoration and Standards

November 2024

Why are we here?

JUNE 29, 2015

USEPA finalizes national recommended water quality criteria for human health for 94 chemical pollutants, including updated exposure inputs, health toxicity values, bioaccumulation factors, and relative source contributions.

MAY 21, 2019

The Department holds a stakeholder meeting and announces the intent to update human health criteria (HHC) for toxic substances based on 2015 USEPA revisions.

JUNE 20, 22 & 28, 2022

The Department holds stakeholder meetings on anticipated amendments regarding HHC for toxic substances.

AUGUST 29,2023

The Department holds a public stakeholder meeting to discuss updates to HHC for toxic substances.

APRIL 10, 2024

USEPA announces final National Primary Drinking Water Regulation (NPDWR) for six PFAS.

NOVEMBER 2024

NJDEP completes PFAS bioaccumulation factor study and revises surface water quality criteria anticipated for proposal for PFNA, PFOA, and PFOS.

UPCOMING PROPOSAL

The Department anticipates a rule proposal amending HHC for 98 toxic substances, which include updated HHC based on USEPA's 2015 national recommendations for 94 toxic parameters, new freshwater SWQS for 1,4-dioxane, and new fresh and saline water criteria for PFNA, PFOA, and PFOS.

Agenda

Review and Updates:

- New significant figures and rounding policy
- Updates to definitions
- Revision to site-specific criteria language
- New freshwater criterion for 1,4-dioxane
- Updates to human health criteria for 94 substances based on USEPA's 2015 recommendations

New fresh and saline criteria for PFNA, PFOA, and PFOS

Anticipated Impacts and Implementation

Next Steps

New Significant Figures Policy

Every new/revised numeric criterion will be expressed in **<u>two</u> significant figures**, EXCEPT...

When factors (including toxicity factors and exposure factors, but not uncertainty factors, conversion factors, and cancer risk levels) used for the numeric criterion are not available in two or more significant figures, the final criterion will be rounded to **<u>one</u> significant figure.**

Two significant figures examples:
3.1 µg/L, 68 µg/L, 220 µg/L, 0.00014 µg/L, 60. µg/L*

One significant figure examples:
0.06 µg/L, 400 µg/L

* Final zeros considered to be significant are followed by a decimal point.

Updated "Carcinogen" and "Non-Carcinogen" Definitions

Reason for change:

- Adds USEPA's 2005 descriptors from USEPA 2005 Guidelines for Carcinogen Risk Assessment, which were used for several toxic substances.

Deleted text in brackets [], new text in **bold**:

"Carcinogen" means a toxic substance capable of inducing a cancer response, including **those classified as** Group A (human carcinogen), Group B (probable human carcinogen) or Group C (possible human carcinogen) [categorized]in accordance with the **1986** USEPA Guidelines for Carcinogen Risk Assessment, 51 Fed. Reg. 33992,[1986] **as well as those described as "carcinogenic to humans", "likely to be carcinogenic to humans", or "suggestive evidence of carcinogenic potential", in accordance with the 2005 USEPA Guidelines for Carcinogen Risk Assessment, 70 Fed. Reg. 17766,** incorporated herein by reference, as amended or supplemented.

"Non-carcinogen" means a toxic substance not categorized as a carcinogen, including **those classified as** Group D (not classifiable as to human carcinogenicity) or Group E (evidence of non-carcinogenicity for humans) [categorized]in accordance with the **1986** USEPA Guidelines for Carcinogen Risk Assessment, 51 Fed. Reg. 33992,[1986] **as well as those described as "inadequate information to assess carcinogenic potential" or "not likely to be carcinogenic to humans" in accordance with the 2005 USEPA Guidelines for Carcinogen Risk Assessment, 70 Fed. Reg. 17766,** incorporated herein by reference, as amended or supplemented.

Basis for New SWQC for 1,4-Dioxane

SWQS freshwater human health criterion of **0.33 µg/L** based on drinking water exposure:

- Based on DWQI's 2021 recommended health-based MCL of 0.33 µg/L for 1,4-dioxane.
- Currently available data suggest that 1,4-dioxane does not bioaccumulate or bioconcentrate to a significant extent in aquatic or marine organisms (ATSDR, 2012).
  - Therefore, appropriate to base freshwater criterion on drinking water exposure only.
- Classified as "Likely Human Carcinogen" (IRIS 2010, 2013; NJDEP, 2018; OCSPP, 2020; DWQI, 2021)
- More information provided in previous stakeholder meeting presentation (slides 33-37).

DWQI: Drinking Water Quality Institute
IRIS: Integrated Risk Information System
OCSPP: Office of Chemical Safety and Pollution Prevention

Changes Since 2023 Stakeholder Meeting – Other Toxic Substances

Updated fresh and/or saline criteria for 9 parameters:

- NJDEP had calculated human health criteria using two significant figures; USEPA sometimes used one significant figure.
- To maintain consistency with significant figures policy, NJDEP now anticipates to propose criteria from **NJDEP's original calculation** using two significant figures.

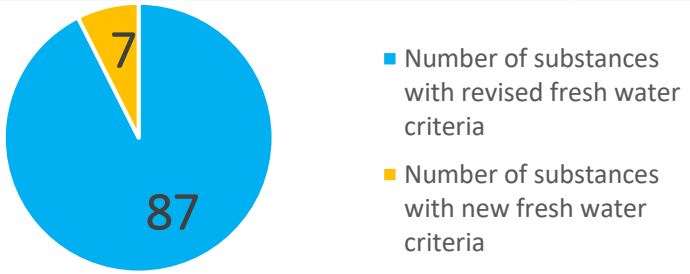
	Criteria Anticipated for Proposal*	
Chemical	**Water + Organism (Fresh Water) (µg/L)**	**Organism Only (Saline) (µg/L)**
Bis(2-Chloro-1-Methylethyl) Ether (previously Bis(2-Chloroisopropyl) Ether)	**220** (200)	3200
Chloroform	**65** (60)	**2300** (2000)
Chlorophenoxy Herbicide (2,4,5-TP)	**130** (100)	380
Cyanide	4	**500** (400)
Di-n-Butyl Phthalate	**30.** (20)	**31** (30)
Fluorene	**57** (50)	**72** (70)
Pentachlorobenzene	**0.11** (0.1)	**0.11** (0.1)
1,2,4,5-Tetrachlorobenzene	**0.033** (0.03)	**0.034** (0.03)
2-Chloronaphthalene	**810** (800)	**1300** (1000)

***Red bold** criteria are anticipated for proposal. Criterion in parenthesis represents USEPA's 2015 recommended human health criterion.

New Parameters Added to the SWQS (Anticipated) based on USEPA (2015) Recommendations

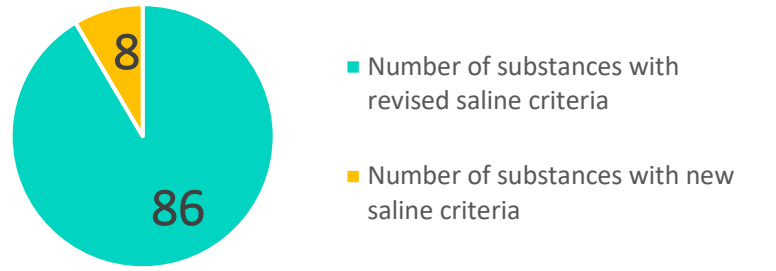
New Fresh Water Criteria (7)

Chemical Name	USEPA 2015 Recommended Fresh Water Criteria (µg/L)	Anticipated Fresh Water Criteria (µg/L)
Bis(Chloromethyl) Ether	0.00015	0.00015
Chlorophenoxy Herbicide (2,4-D)	1300	60.
Chlorophenoxy Herbicide (2,4,5-TP)	100	130
Dimethyl Phthalate	2000	500
Hexachlorocyclohexane - Technical	0.0066	0.0066
3-Methyl-4-Chlorophenol	500	500
Dinitrophenols	10	10



New Saline Water Criteria (8)

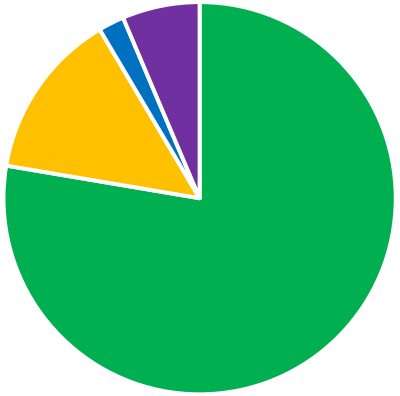
Chemical Name	USEPA 2015 Recommended Saline Criteria (µg/L)	Anticipated Saline Criteria (µg/L)
Bis(Chloromethyl) Ether	0.017	0.017
Chlorophenoxy Herbicide (2,4-D)	12000	560
Chlorophenoxy Herbicide (2,4,5-TP)	400	380
Dimethyl Phthalate	2000	500
Hexachlorocyclohexane - Technical	0.010	0.010
Methoxychlor	0.02	0.02
3-Methyl-4-Chlorophenol	2000	2000
Dinitrophenols	1000	300

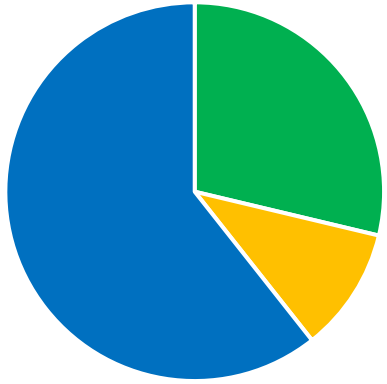


Comparisons

Fresh Water Criteria

Comparing NJ Recommended Criteria With Existing NJ SWQS Criteria	
Number of constituents **more stringent**	**72**
Number of constituents **less stringent**	**13**
No difference	**2**
Number of **new constituents**	**7**
Comparing NJ Recommended Criteria With USEPA Recommended Criteria	
Number of constituents **more stringent**	**27**
Number of constituents **less stringent**	**18**
No difference	**49**

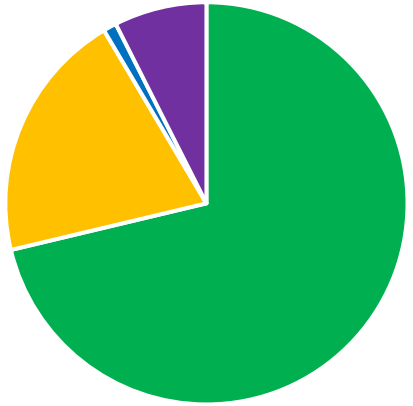




Comparisons (continued)

Saline Water Criteria

Comparing NJ Recommended Criteria With Existing NJ SWQS Criteria	
Number of constituents **more stringent**	**65**
Number of constituents **less stringent**	**20**
No difference	**1**
Number of **new constituents**	**8**
Comparing NJ Recommended Criteria With USEPA Recommendations	
Number of constituents **more stringent**	**30**
Number of constituents **less stringent**	**15**
No difference	**49**



Background on Revisions to SWQC for 94 Toxic Substances
Toxicity Factors

	USEPA (2015) HHAWQC	Updated criteria (NJDEP)
Value Reference Dose (mg/kg/day) or Cancer Slope Factor $(mg/kg/day)^{-1}$	Chemical-specific	Chemical-specific (differ from USEPA in some cases)
Sources	Based on information available as of 2015 from: • USEPA IRIS database • Other USEPA programs (NCEA, OPPT, OSWER, OW) • US DHHS/ATSDR • Health Canada • CalEPA	Based on information available as of 2017 from: • USEPA IRIS database • **NJ DWQI** • USEPA 2015 updates to HHAWQC • Other USEPA programs (NCEA, OPPT, OSWER, OW) • US DHHS/ATSDR • CalEPA
How value selected	Most recent available toxicity factor	Best available toxicity factor based on scientific judgement

Abbreviations: ATSDR, Agency for Toxic Substances and Disease Registry; CalEPA, California Environmental Protection Agency; HHAWQC, human health ambient water quality criteria; IRIS, Integrated Risk Information System; NCEA, National Center for Environmental Assessment; NJDWQI, New Jersey Drinking Water Quality Institute; OPPT, Office of Pollution Prevention and Toxics; OSWER, Office of Solid Waste and Emergency Response; OW, Office of Water; US DHSS, United States Department of Health and Human Services

Background on Revisions to SWQC for 94 Toxic Substances
Exposure Factors

	USEPA (2015) HHAWQC	Updated criteria (NJDEP)	Current criteria (NJDEP)
Exposure factors			
Body weight (adult)	80.0 kg		70 kg
Daily drinking water intake (adult)	2.4 L/day		2 L/day
Fish consumption rate (adult)	22.0 g/day*		17.5 g/day
Bioaccumulation factor or bioconcentration factor	Chemical-specific (Trophic level-specific for many chemicals)		Chemical-specific

*To better reflect human consumption of fish and shellfish, trophic level-specific fish consumptions rates were used for many chemicals. Specifically, the trophic level-specific fish consumption rates were: trophic level 2 (benthic feeders) = 7.6 g/day; trophic level 3 (forage fish) = 8.6 g/day; trophic level 4 (predatory fish) = 5.1 g/day.

Background on Revisions to SWQC for 94 Toxic Substances
Other Considerations

	USEPA (2015) HHAWQC	Updated criteria (NJDEP)
Additional factors		
Relative source contribution	Chemical-specific Range from 20% (default) to 80%	Same as USEPA
Age-dependent adjustment factors for mutagenic carcinogens	Not applied	Applied when appropriate
Uncertainty factor for potential carcinogenicity for carcinogens with no available cancer slope factor	Not applied	Applied when appropriate
Other considerations		
Significant figures	Significant figures of criterion based on factors used in derivation: • If factors available as 1 significant figure, then criterion reported as 1 significant figure • If factors available as at least 2 significant figures, then criterion reported as 2 significant figures	Same as USEPA • However, NJDEP evaluated whether toxicity factors presented as 1 significant figure could be recalculated as 2 significant figures

Agenda

Review and Updates:

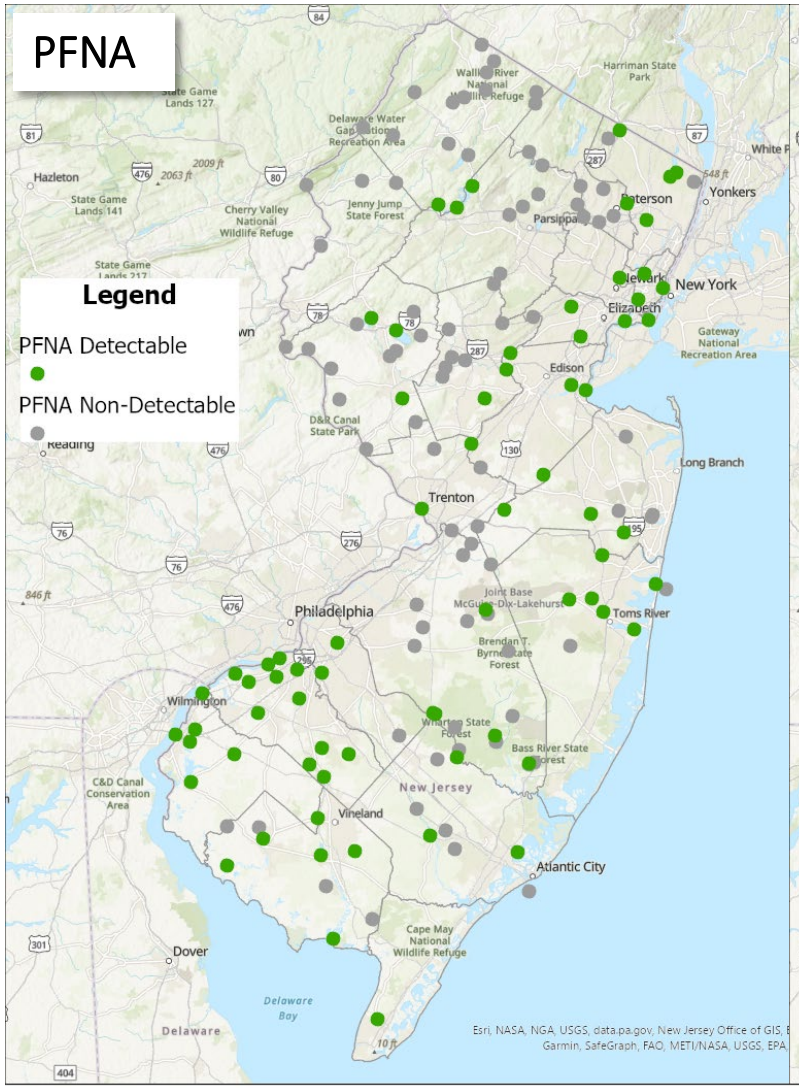
- New significant figures and rounding policy
- Updates to definitions
- Revision to site-specific criteria language
- New freshwater criterion for 1,4-dioxane
- Updates to human health criteria for 94 substances based on USEPA's 2015 recommendations

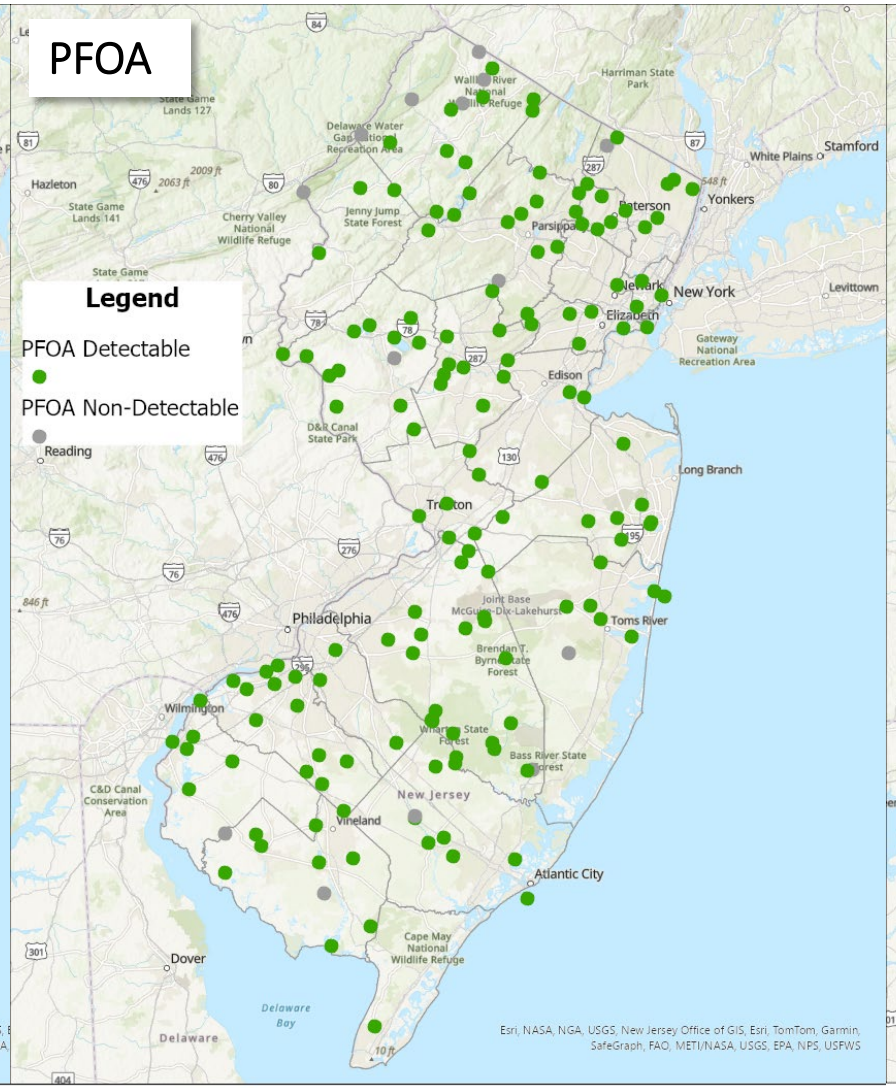
New fresh and saline criteria for PFNA, PFOA, and PFOS

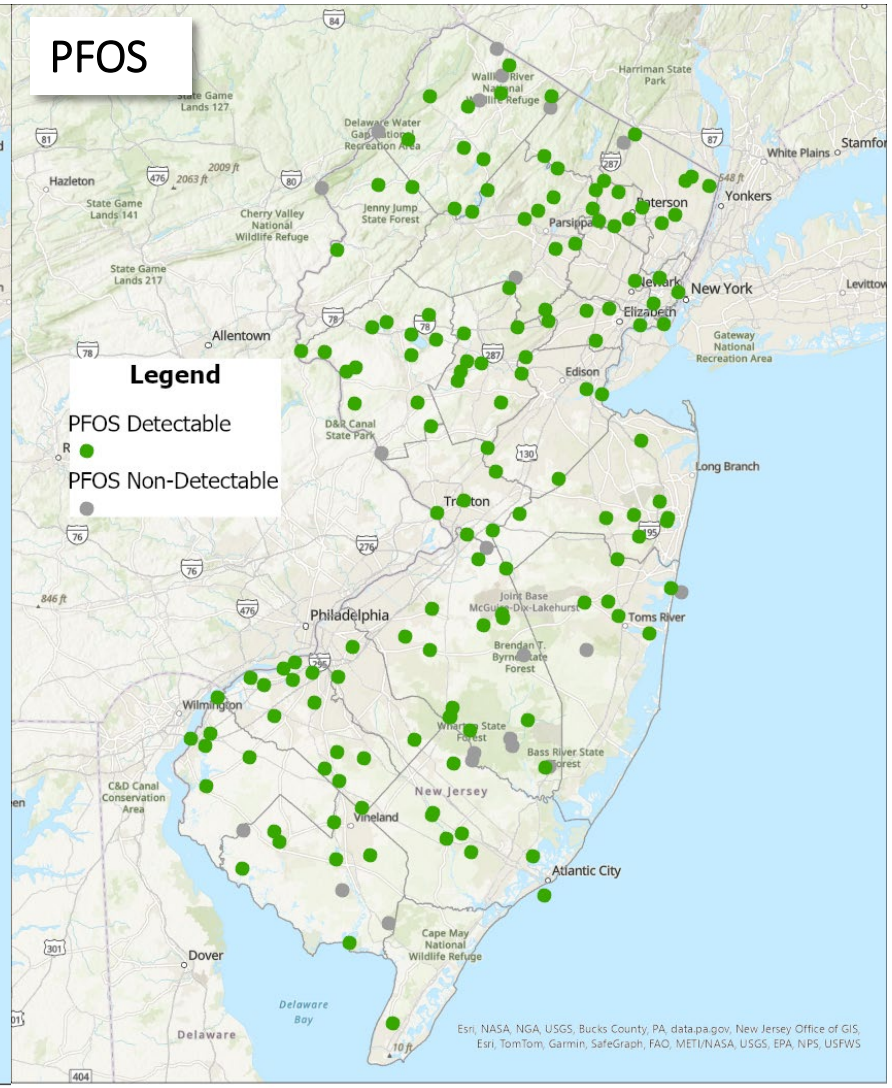
Anticipated Impacts and Implementation

Next Steps

PFAS Have Been Found Throughout NJ (Ambient Surface Waters)







Sources: NJDEP Bureau of Freshwater and Biological Monitoring via Water Quality Portal, 2020-2022
NJDEP (Drexel University) Bioaccumulation Factor Study 2022-23

Why are PFAS in surface water of particular concern?

- Unique as persistent, bioaccumulative, and toxic (PBT) drinking water contaminants.
  - Do not break down in the environment and are water soluble.
- Multiple toxic effects in laboratory animals, some at very low doses.
- Evidence for multiple human health effects from low exposures.
  - Including in general population without additional exposure from contaminated drinking water or other local contamination sources.
  - PFNA – *Inadequate information to assess carcinogenic potential* (USEPA, 2024a)
  - PFOA and PFOS – *Likely to be carcinogenic to humans* (USEPA, 2024b & 2024c)
- PFNA, PFOA, and PFOS build up in the body over time and remain in the body for many years after exposure ends.
- Drinking water is a major source of exposure, but both fish and water consumption can result in PFAS exposure, even at low concentrations.
- Higher exposures in infants than in older individuals when drinking water is contaminated, and infants are therefore considered a sensitive subgroup for PFAS health effects.

Revisions Since 2023 Stakeholder Meeting: New Fresh and Saline Criteria for PFNA, PFOA, PFOS

Parameter	NJDEP Freshwater Criteria Previously Considered (2023) (ng/L)	Basis for Human Health Criteria Derivation (2023)	NJDEP Freshwater Criteria Anticipated for Proposal (2024) (ng/L)	NJDEP Saline Water Criteria Anticipated for Proposal (2024) (ng/L)	Basis for Human Health Criteria Derivation (2024)
Perfluorononanoic acid (PFNA)	13	DWQI, 2015	5	2	• USEPA National Primary Drinking Water Regulation (NPDWR), 2024 • NJDEP BAFs
Perfluorooctanoic acid (PFOA)	14	DWQI, 2017	0.00057	0.00079	
Perfluorooctane sulfonate (PFOS)	13	DWQI, 2018	0.032	0.14	

Fresh water exposure pathways

Saline water exposure pathway

Drinking Water and Fish Consumption

Non-carcinogen

Fish Consumption only

$$\text{Criterion } (\mu g/L) = \frac{\text{RfV (mg/kg/day)} \times \text{RSC} \times \text{Adult body weight (kg)} \times 1000\ \mu g/mg}{\text{Water consumption (L/day)} + (\text{Fish consumption (kg/day)} \times \textbf{BAF}\ \text{(L/kg)})}$$

$$\text{Criterion } (\mu g/L) = \frac{\text{RfV (mg/kg/day)} \times \text{RSC} \times \text{Adult body weight (kg)} \times 1000\ \mu g/mg}{\text{Fish consumption (kg/day)} \times \textbf{BAF}\ \text{(L/kg)}}$$

Carcinogen

$$\text{Criterion } (\mu g/L) = \frac{10^{-6}\ \text{risk level} / \text{Cancer Slope Factor } (\text{mg/kg/day})^{-1} \times \text{Adult body weight (kg)} \times 1000\ \mu g/mg}{\text{Water consumption (L/day)} + (\text{Fish consumption (kg/day)} \times \textbf{BAF}\ \text{(L/kg)})}$$

$$\text{Criterion } (\mu g/L) = \frac{10^{-6}\ \text{risk level} / \text{Cancer Slope Factor } (\text{mg/kg/day})^{-1} \times \text{Adult body weight (kg)} \times 1000\ \mu g/mg}{\text{Fish consumption (kg/day)} \times \textbf{BAF}\ \text{(L/kg)}}$$

Default adult body weight: 80.0 kg
Water consumption rate: 2.4 L/day
Fish consumption rate: 0.022 kg/day (22 g/day)

Note: for presentation purposes the denominators are simplified to be representative for a single trophic level of fish.

Basis for Updated PFNA, PFOA, and PFOS Criteria

- In April 2024, USEPA established final MCLs for six PFAS, which included updated toxicity assessments for PFNA, PFOA, and PFOS. Considers exposure through **drinking water only**.
- For human health SWQC, NJDEP is considering exposure through **drinking water AND fish consumption.**
- Considers new carcinogenic studies for PFOA and PFOS.
- "Chemical-by-chemical" approach – NJDEP is not considering potential additive toxicity of co-occurring PFAS.

PFNA

Based on non-cancer effects; carcinogenicity potential has not been evaluated in humans or animals.

Reference Value (RfV) of **$3x10^{-6}$ mg/kg/day**

- Based on adverse developmental outcomes in mouse pups after oral exposure of mothers (dams) to PFNA (decreased body weight gain and developmental delays)
- USEPA's PFNA MCL was calculated using a combined drinking water and body weight value. NJDEP will use separate drinking water and body weight values.

PFOA

Based on carcinogenic effects; "suggestive evidence of carcinogenicity"

Cancer slope factor of **29,300 $(mg/kg/day)^{-1}$**

- Based on renal cell carcinomas in humans aged 55-74

PFOS

Based on carcinogenic effects; "suggestive evidence of carcinogenicity"

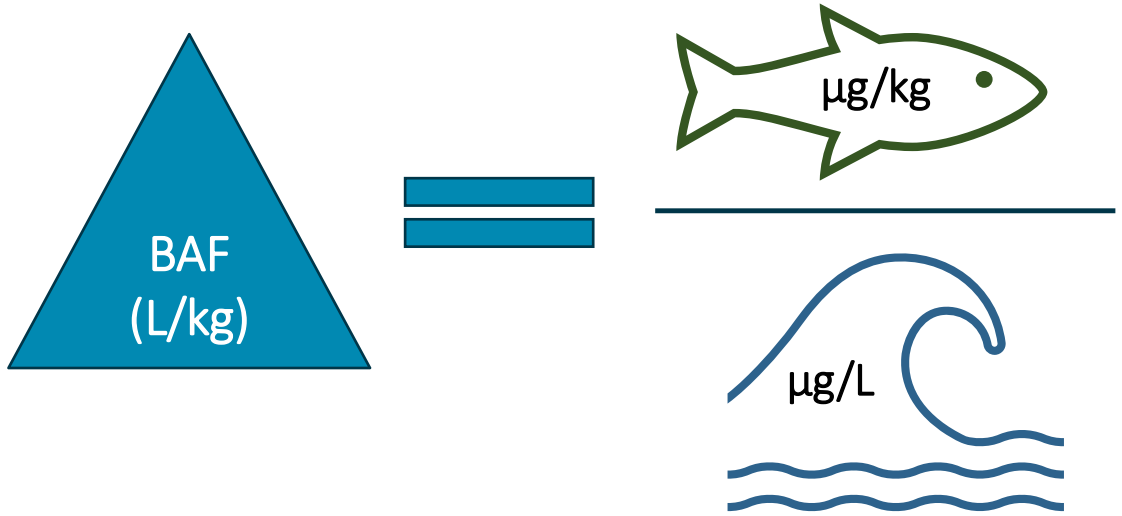
Cancer slope factor of **39.5 $(mg/kg/day)^{-1}$**

- Based on hepatocellular adenomas and carcinomas in female rats

Basis for Updated PFNA, PFOA, and PFOS Criteria

Development of NJ-Specific PFNA, PFOA, and PFOS Bioaccumulation Factors (BAFs)

- BAFs are a ratio of a contaminant in fish tissue to the contaminant concentration in water- expressed in L/kg
  - Bioaccumulative contaminants that concentrate in fish tissue and can result in much higher exposure than drinking water alone.



- EPA guidance recommends BAFs derived from field data
  - Field BAFs incorporate all interactions between fish and their environment, such as water concentrations, sediment types, & food availability.

- Other states have incorporated their own BAFs using field studies, laboratory data, or literature reviews- Florida, Minnesota, Michigan

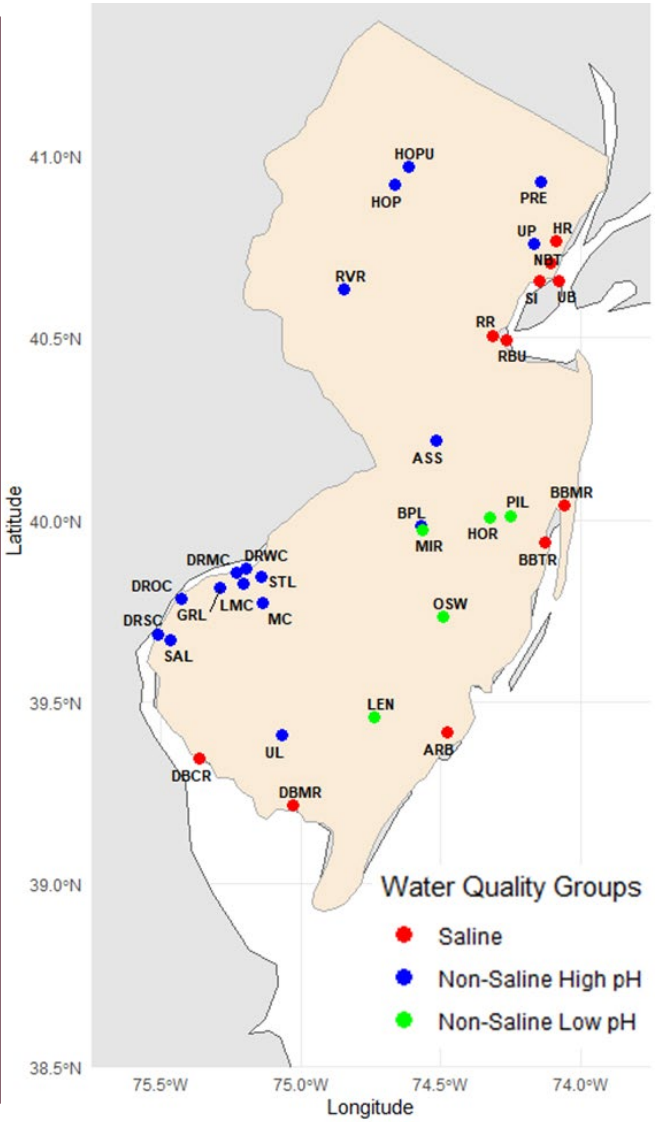
Basis for Updated PFNA, PFOA, and PFOS Criteria

In partnership with the Academy of Natural Sciences of Drexel University, New Jersey elected to develop state-specific BAFs for PFNA, PFOA, and PFOS (2022-2024)

- NJDEP commissioned this study to determine PFAS concentrations in fish tissue (fillet) and surface waters from 33 sites across the State
  - Data were paired with water quality characteristics that may impact PFAS partitioning (salinity, pH).
  - Many additional PFAS were analyzed.
  - Final report submitted and undergoing Department review.

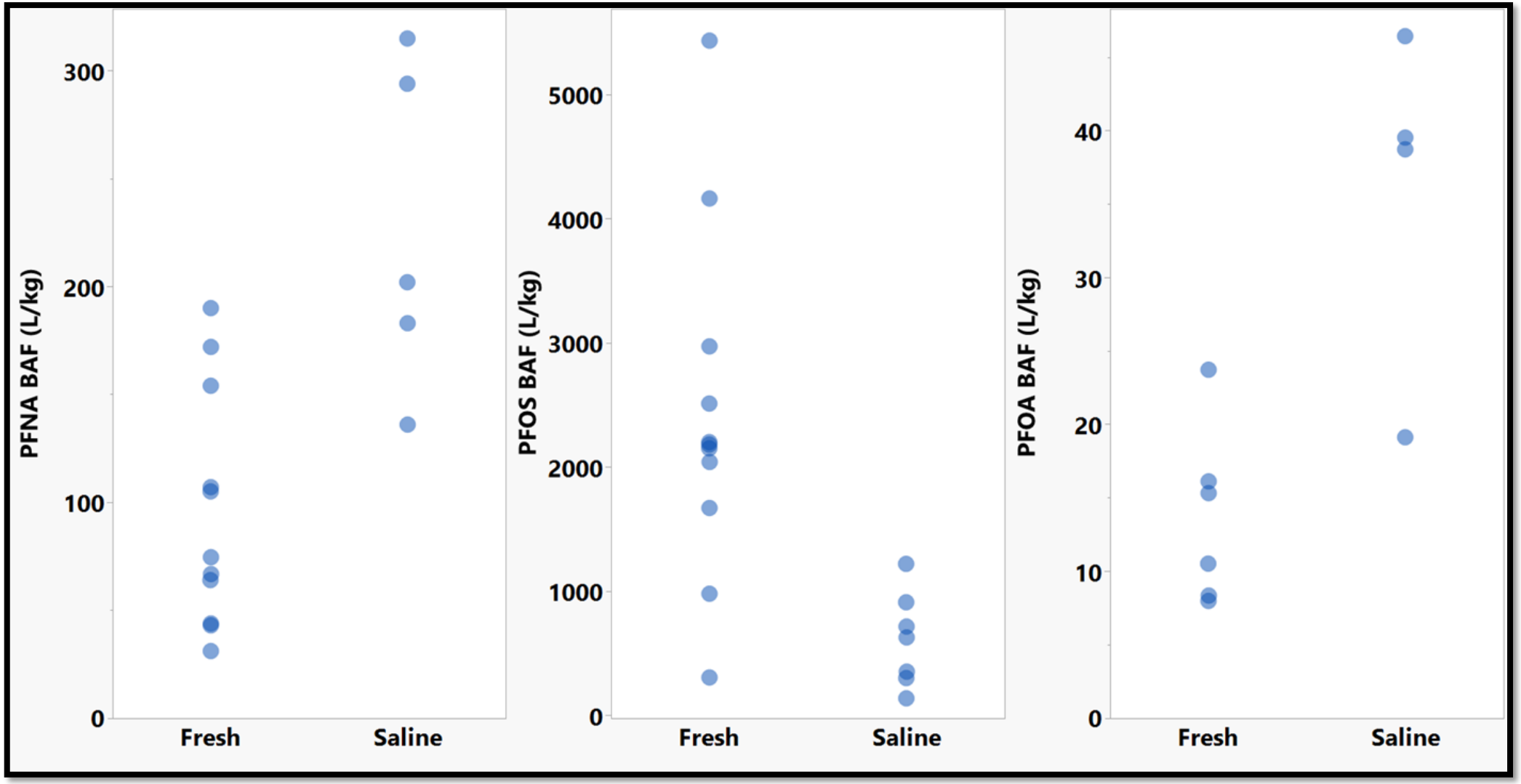
- This robust data set enables the Department to calculate state-specific BAFs for fresh and saline waters with the following procedure:

Step	Nomenclature	Sample composition	Calculation
Step 1	Baseline BAF	BAF derived from field data for each species at each site	$Baseline\ BAF = \left(\frac{Fish\ Geometric\ Mean}{Water\ Geometric\ Mean}\right)$
Step 2	Species BAF	Baseline BAFs combined for each species from all sites within area of interest (fresh water or saline waters)	Geometric means of Baseline BAFs
Step 3	Final BAF	All species BAFs combined from all sites within area of interest (fresh water or saline waters	Geometric mean of Species BAFs (95% UCL)



Basis for Updated PFNA, PFOA, and PFOS Criteria

State BAFs were consistent with literature values for each PFNA, PFOS, and PFOA



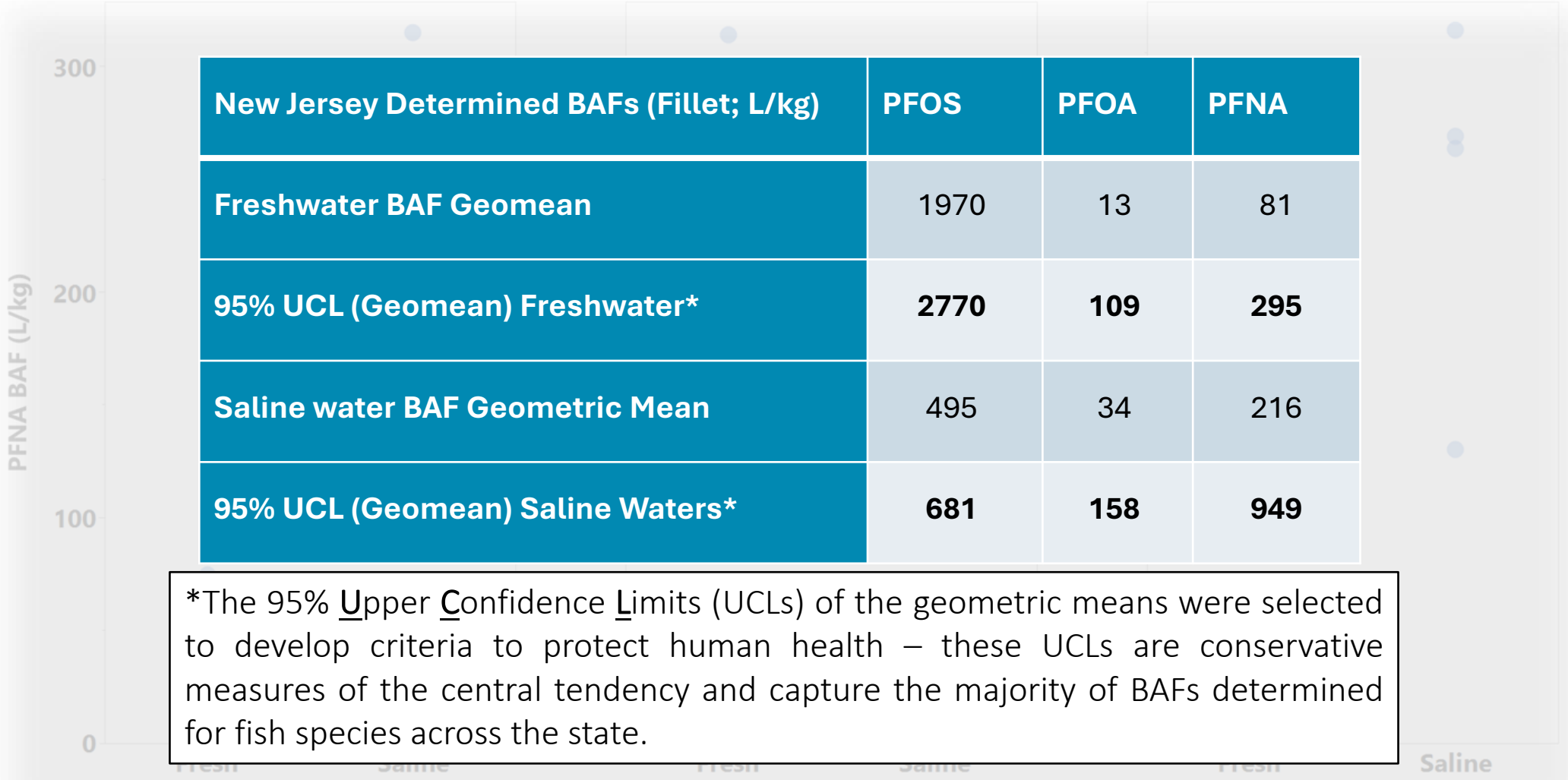
Distribution of species BAFs for each PFAS and surface water type

Basis for Updated PFNA, PFOA, and PFOS Criteria

Final BAF selection for developing SWQC

New Jersey Determined BAFs (Fillet; L/kg)	PFOS	PFOA	PFNA
Freshwater BAF Geomean	1970	13	81
95% UCL (Geomean) Freshwater*	**2770**	**109**	**295**
Saline water BAF Geometric Mean	495	34	216
95% UCL (Geomean) Saline Waters*	**681**	**158**	**949**

*The 95% Upper Confidence Limits (UCLs) of the geometric means were selected to develop criteria to protect human health – these UCLs are conservative measures of the central tendency and capture the majority of BAFs determined for fish species across the state.



Distribution of species BAFs for each PFAS and surface water type

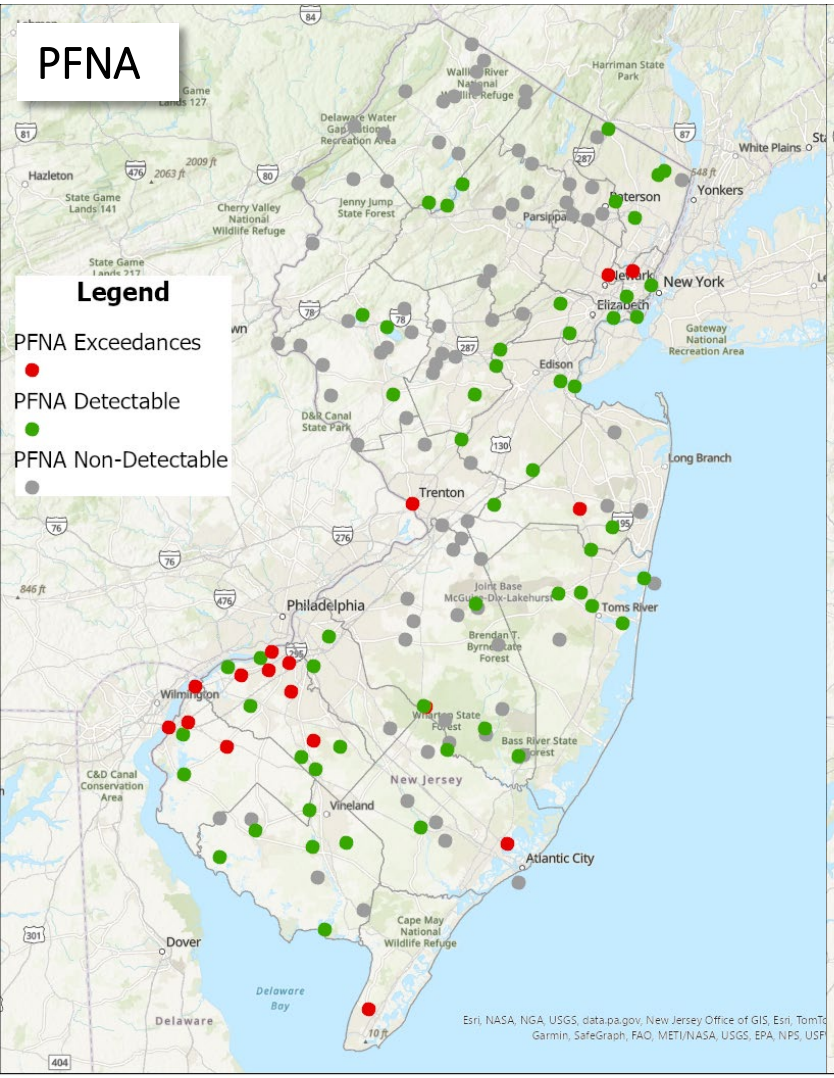
Basis for Updated PFNA, PFOA, and PFOS Criteria

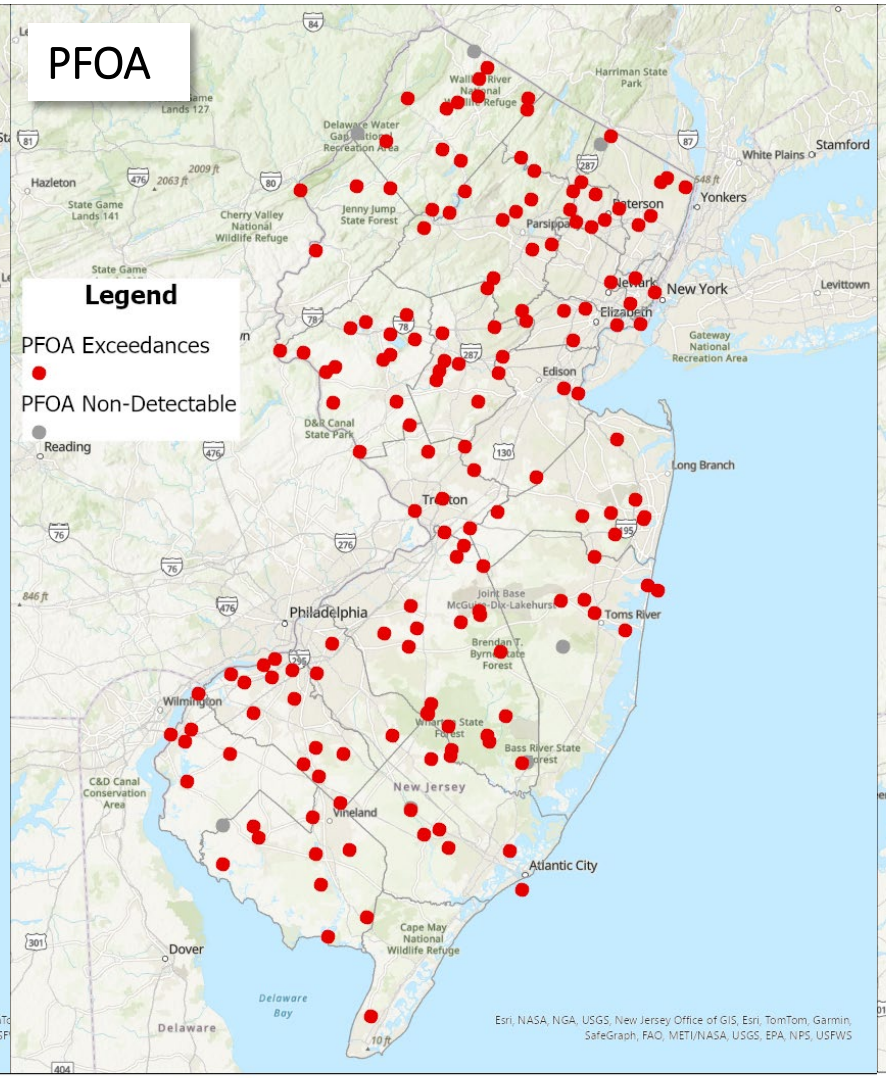
Parameter	Reference Value (mg/kg/day)	Relative Source Contribution (RSC)	Cancer Slope Factor $(mg/kg/day)^{-1}$	Cancer Risk Level	Freshwater or Saline BAF (L/kg)	Body Weight (kg)	Drinking Water Consumption Rate (L/day)	Fish Consumption Rate (kg/day)
PFNA	3×10^{-6}	0.2	--	--	295 (F) 949 (S)	80.0	2.4	0.022
PFOA	--	--	29,300	1×10^{-6}	109 (F) 158 (S)			
PFOS	--	--	39.5	1×10^{-6}	2770 (F) 681 (S)			

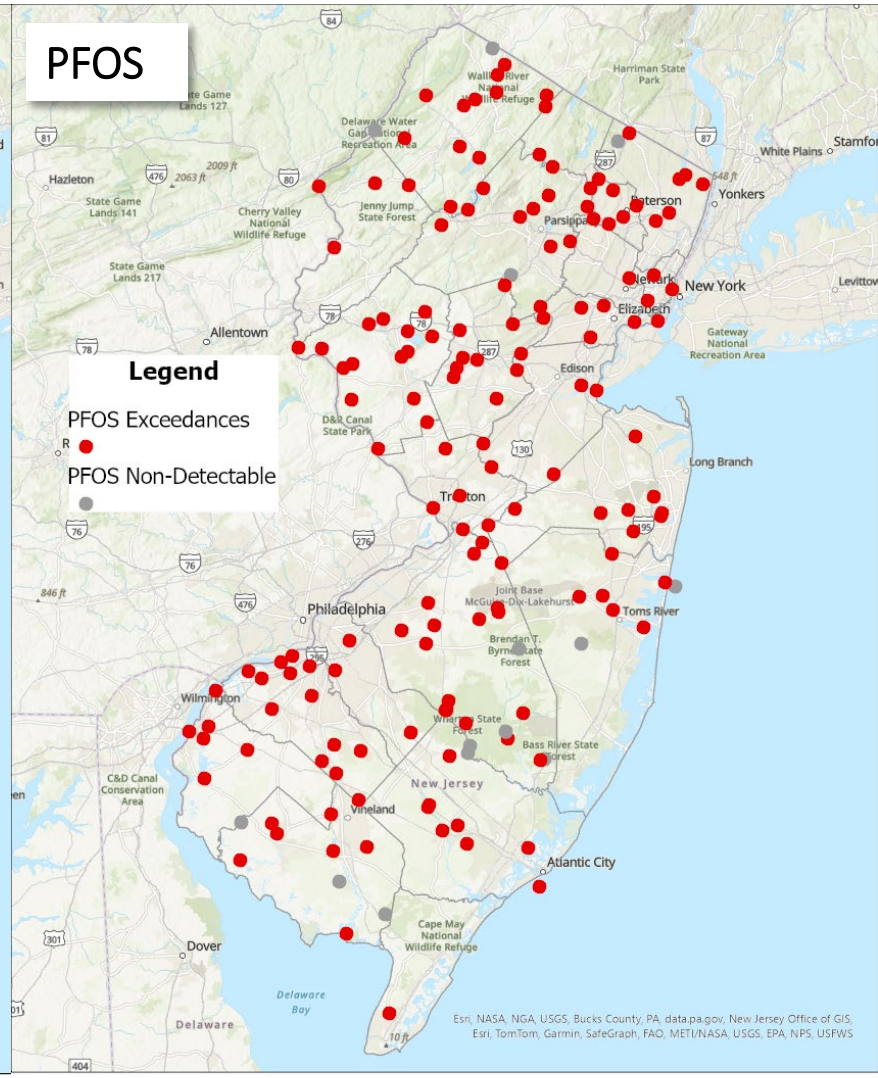
Revisions Since 2023 Stakeholder Meeting: New Fresh and Saline Criteria for PFNA, PFOA, PFOS

Parameter	NJDEP Freshwater Criteria Anticipated for Proposal (ng/L)	NJDEP Saline Water Criteria Anticipated for Proposal (ng/L)
Perfluorononanoic acid (PFNA)	5	2
Perfluorooctanoic acid (PFOA)	0.00057	0.00079
Perfluorooctane sulfonate (PFOS)	0.032	0.14

PFAS – Potential Exceedances of Proposed SWQS







Sources: NJDEP Bureau of Freshwater and Biological Monitoring via Water Quality Portal, 2020-2022
NJDEP (Drexel University) Bioaccumulation Factor Study 2022-23

Agenda

Review and Updates:

- New significant figures and rounding policy
- Updates to definitions
- Revision to site-specific criteria language
- New freshwater criterion for 1,4-dioxane
- Updates to human health criteria for 94 substances based on USEPA's 2015 recommendations

New fresh and saline criteria for PFNA, PFOA, and PFOS

Anticipated Impacts and Implementation

Next Steps

NJPDES Permits routinely include Waste Characterization Report requirements

Typically, the 87/86 parameters with updated Standards are not present in wastewater effluent.

Monitoring for most of the 94 parameters is already required in NJPDES Permits

87/86 are updated standards – current requirement

7/8 are new standards – new requirement

Impacts to NJPDES Permitting Based on Revisions to Criteria for 94 Parameters

12 Anticipated New Surface Water Quality Standards for Toxics

Perfluorononanoic acid (PFNA)
Perfluorooctanoic acid (PFOA)
Perfluorooctanesulfonic acid (PFOS)

→ **PFAS**

1,4 Dioxane → **1,4 Dioxane**

Bis(Chloromethyl) Ether
Chlorophenoxy Herbicide (2,4-D)
Chlorophenoxy Herbicide (2,4,5-TP)
Dimethyl Phthalate
Dinitrophenols
Hexachlorocyclohexane – Technical
3-Methyl-4-Chlorophenol
*Methoxychlor

→ **Other Toxics**
(7 Freshwater/8 Saline)

* Fresh water criterion already exists; saline water criterion is being considered for proposal

Estimated Cost of Analysis for 12 New Parameters

PFAS Analysis
- Perfluorononanoic acid (PFNA)
- Perfluorooctanoic acid (PFOA)
- Perfluorooctanesulfonic acid (PFOS)

→ Cost of Analysis: $312 to $425*

Volatile and Semi-Volatile Organics/Pesticide Analysis
- Chlorophenoxy Herbicide (2,4-D)
- Chlorophenoxy Herbicide (2,4,5-TP)
- Dimethyl Phthalate
- Dinitrophenols
- Hexachlorocyclohexane – Technical
- 3-Methyl-4-Chlorophenol
- Methoxychlor

→ Cost of Analysis: $0*
(already covered under existing volatile organics and pesticide scans)

Semi-Volatile Organics Analysis
- Bis(Chloromethyl) Ether

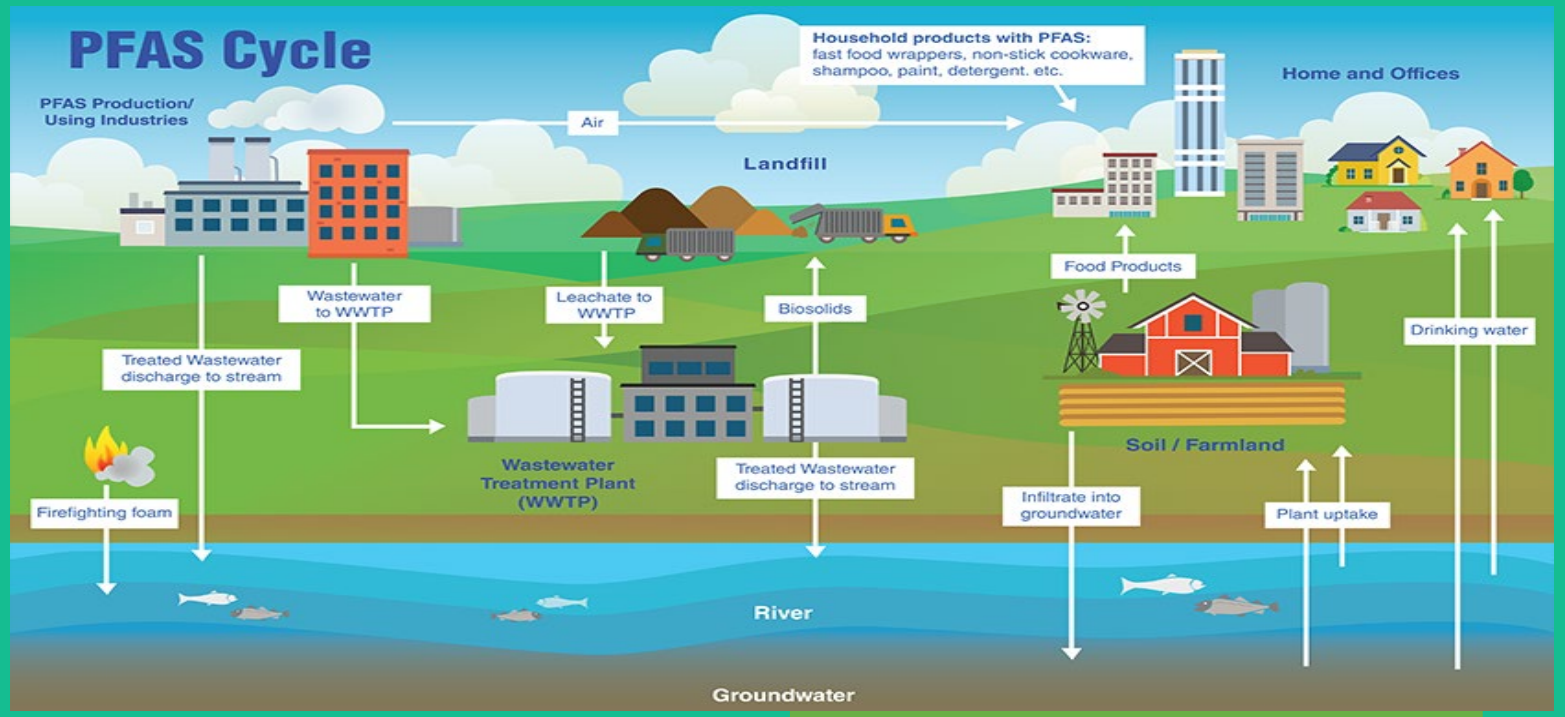
→ Cost of Analysis: $15*

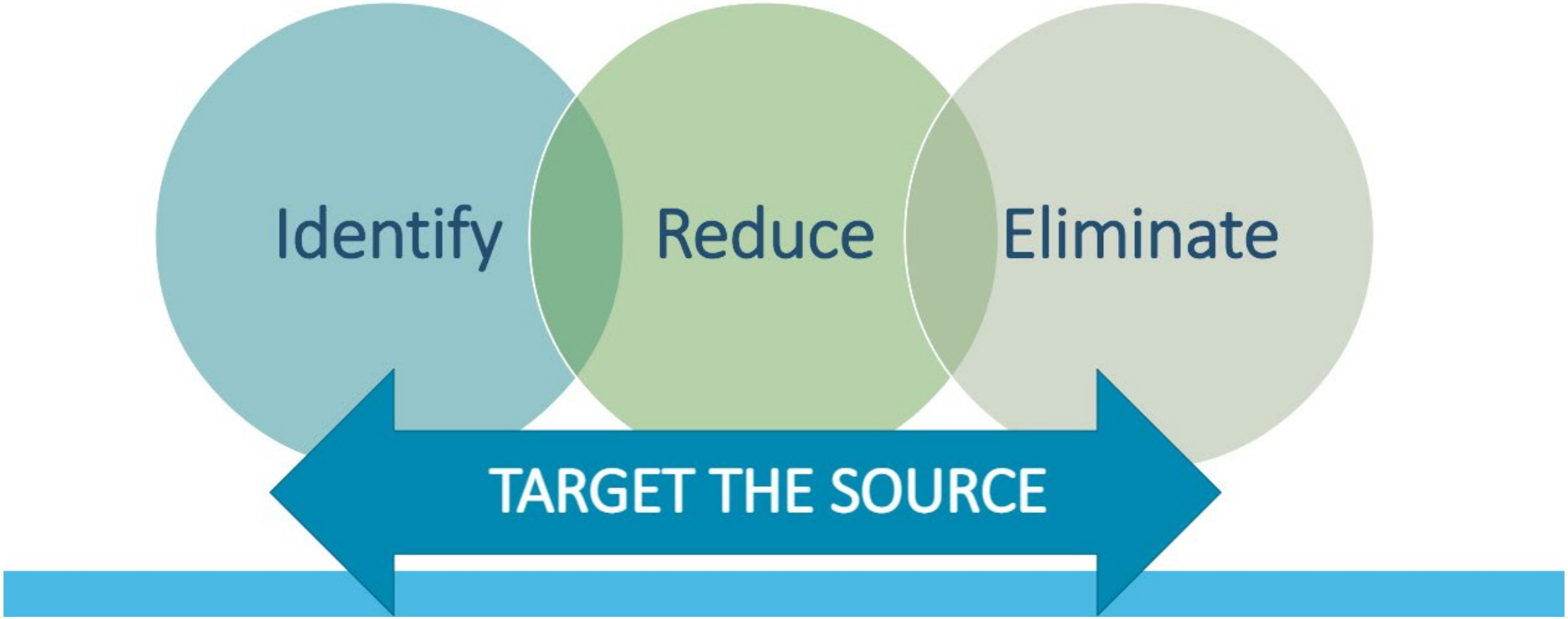
Volatile Organics Analysis (SIM)
- 1,4 Dioxane

→ Cost of Analysis: $140*

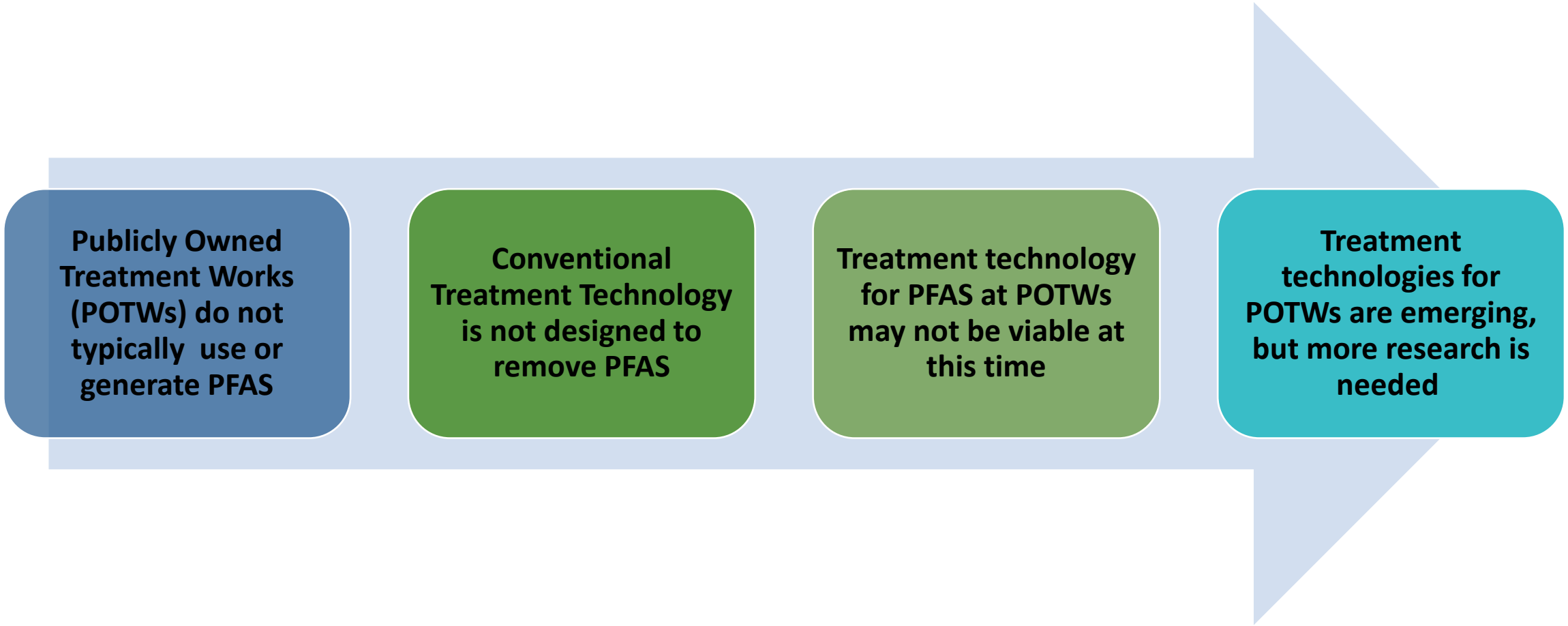
*Plus additional costs for any required blanks.

Addressing PFAS in NJPDES Surface Water & Pretreatment Permits




Identify
Reduce
Eliminate
TARGET THE SOURCE

WHY TARGET THE SOURCE?



DWQ PFAS STRATEGY

Division of Water Quality PFAS Strategy:

Identify, Reduce, and Eliminate sources of PFAS

On January 17, 2023, the Commissioner signed Administrative Order 2023-01 to encourage the collection of data that will aid in efforts to identify, reduce and eliminate sources of PFAS in wastewater and its residuals.

Discharge to Surface Water and Pretreatment Permits

Read more

Discharge to Ground Water Permits

Read more

Residuals, Biosolids, and Sewage Sludge Permits

Read more

PFAS Data Collection

Read more

DEP PFAS

Read more

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

https://www.nj.gov/dep/dwq/pfas.htm

Anticipated Impacts to Laboratories

94 Toxic Substances:

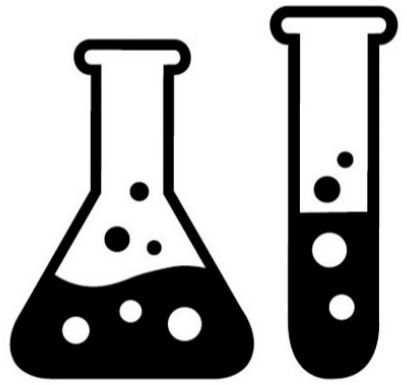
- Many parameters are already present in the Ground Water Quality Standards (GWQS), and permittees are already monitoring for said parameters.
- Analytical methods and PQLs for surface waters are similar to what is currently in use for ground water monitoring.
- Always refer to the applicable 40 C.F.R. Part 136 for the list of approved methods for a parameter.

PFNA, PFOA, and PFOS:

- Analytical method recommended for PFAS analysis: Method 1633

1,4-Dioxane:

- No analytical method for non-potable water listed in 40 C.F.R. Part 136
- Possible methods to use:
  - *SW-846 8260D, or SW-846 8270E with SIM, or*
  - *A user-defined, modified option for USEPA Method 522*



Anticipated Impacts to Remediation Sites

The updated Surface Water Quality Standards will be applied at all active site remediation sites involving a ground water to surface water pathway.

- Site Remediation projects with contaminants with **existing SWQS** would have **six months** to comply with new standards from the effective date of adoption. **New SWQS** will apply immediately at the time of promulgation.
- Site Remediation has three years to review a submittal by the Licensed Site Remediation Professional (LSRP) and to invalidate the submittal if it does not meet NJDEP regulations or standards.

- May result in additional evaluation of potential surface water impacts. May include additional monitoring wells, additional sampling, and additional treatment of groundwater discharging to surface water bodies.
- For closed sites, sites with Final Remediation Documents (No Further Action or Response Action Outcome), or sites with Remedial Action Workplan approvals:
  - May trigger additional remediation of contaminated sites **for constituents becoming more stringent by an order of magnitude.**

Closed sites with Classification Exception Areas (CEAs) will need to be reevaluated at the time of biennial certification.

Closed sites without CEAs may be reevaluated if the site should be remediated again.

Next Steps for Anticipated SWQS Rulemaking

- Handout/presentation to be published post-meeting.
- Finalize rule proposal by 2024.
- Anticipate publication of rule proposal in early 2025.

Questions?

Acknowledgements

Victor Poretti, Director	Division of Water Monitoring, Standards and Pesticide Control
Kimberly Cenno, Bureau Chief	Bureau of Environmental Analysis, Restoration & Standards
Tracy Fay, Standards Coordinator	Director's Office
Biswarup "Roop" Guha, Standards Rule Manager and Lead	**SWQS@dep.nj.gov**
Bidya Prasad, Ph.D., Standards Rule Team Kelly Mascarenhas, Standards Rule Team Ryan Minor, Standards Rule Team	**SWQS@dep.nj.gov**
MaryAnne Kuserk, Assistant Director Jennifer Willemsen, Ph.D., Research Scientist Celine Cumming, Geologist	Contaminated Site Remediation & Redevelopment Program
Susan Rosenwinkel, Director	Division of Water Quality
Kerri Standowski, Environmental Specialist	
Nick Procopio, Ph.D., Director	Division of Science and Research
Josephine Bonventre, Ph.D., Research Scientist Greg Raspanti, Ph.D., Research Scientist Dan Millemann, PhD., Research Scientist Paula Blaze, Research Scientist Michele Potter, Manager, Office of Quality Assurance	

References

ATSDR. (2012). *Toxicological Profile for 1,4-Dioxane.* Agency for Toxic Substances and Disease Registry. https://www.atsdr.cdc.gov/toxprofiles/tp187.pdf

DWQI. (2021). *Health-Based Maximum Contaminant Level Support Document for 1,4-Dioxane.* New Jersey Drinking Water Quality Institute. https://www.state.nj.us/dep/watersupply/pdf/14dioxane-rec-sum-appendixa.pdf

USEPA. (2010.) Integrated Risk Information System. IRIS Toxicological Review of 1,4-Dioxane. https://iris.epa.gov/document/&deid=205170

USEPA. (2013). IRIS Toxicological Review of 1,4-Dioxane (With Inhalation Update) (Final Report). Integrated Risk Information System. https://iris.epa.gov/ChemicalLanding/&substance_nmbr=326

USEPA. (2020, December). Final Risk Evaluation for 1,4-Dioxane. EPA-740-R1-8007. United States Environmental Protection Agency. United States Office of Chemical Safety and Pollution Prevention. https://www.epa.gov/sites/production/files/2020-12/documents/1._risk_evaluation_for_14-dioxane_casrn_123-91-1.pdf.

USEPA. (2024a). IRIS Toxicological Review of Perfluorononanoic Acid (PFNA) and Related Salts (Public Comment and External Review Draft). United States Environmental Protection Agency. https://iris.epa.gov/document/&deid=355409

USEPA. (2024b). FINAL Human Health Toxicity Assessment for Perfluorooctanoic Acid (PFOA) and Related Salts. United States Environmental Protection Agency. https://www.epa.gov/system/files/documents/2024-05/final-human-health-toxicity-assessment-pfoa.pdf

USEPA. (2024c). FINAL Human Health Toxicity Assessment for Perfluorooctane Sulfonic Acid (PFOS) and Related Salts. United States Environmental Protection Agency. https://www.epa.gov/system/files/documents/2024-05/final-human-health-toxicity-assessment-pfos.pdf

NJDEP. (2018). Adoption of amendments to Ground Water Quality Standards rules, N.J.A.C. 7:9C-1.7 and Appendix Table 1; and Discharges of Petroleum and Other Hazardous Substances Rules, N.J.A.C. 7:1E Appendix A List of Hazardous Substances. New Jersey Department of Environmental Protection. https://dep.nj.gov/wp-content/uploads/rules/adoptions/adopt_20180116c.pdf