WIWSA Quarterly Member Meeting

Whidbey Island Water Systems Association

Safe Adequate Water

PFAS Update

- Toilet paper
- MCLs and Hazard Indexes
- Public Participation Grant Status

About that Toilet Paper

Per- and Polyfluoroalkyl Substances in Toilet Paper and the Impact on Wastewater Systems | Environmental Science & Technology Letters (acs.org)

“In this study, both toilet paper and wastewater sludge were characterized to explore the magnitude of the potential PFAS loading into wastewater systems from toilet paper.
In both toilet paper and wastewater sludge, 6:2 fluorotelomer phosphate diester (6:2 diPAP) was the most prevalent PFAS detected, and toilet paper usage was estimated to contribute from 6.4 to 80 µg/person-year of 6:2 diPAP to wastewater–water systems.
Our results suggest that toilet paper should be considered as a potentially major source of PFAS entering wastewater treatment systems.”

Is PFAS from Toilet Paper Contaminating our Drinking Water?

- PFAS in TP: 6.4 to 80 µg/person-year of 6:2 diPAP
- Domestic water consumption: approx. 150,000 liters/year
- Calculated concentration of 6:2 diPAP in septic effluent: 0.04 – 0.5 ng/l (parts per trillion)
- Population of Island County: approx. 80,000
- PFAS in a year's worth of Island County toilet paper: 0.5 – 6.4 g
- Equivalent to the PFAS in 10-100 ml of AFFF concentrate
- PFAS is toilet paper is not great, but we need to focus on major sources

2023 EPA Proposal to Regulate PFAS in Drinking Water

State vs. federal numbers for PFAS in Drinking Water (ng/L or parts per trillion)

Individual Maximum Contaminant Level (MCL) for 2 PFAS	WA State Action Levels (2021)	EPA Health Advisory Levels (2022)	EPA proposed MCL (2023)
PFOA (perfluorooctanoic acid)	10	0.004 *	4
PFOS (perfluorooctane sulfonic acid)	15	0.02 *	4
Hazard Index for group of 4 PFAS			**HBWC used to calculate a ratio****
PFNA (perfluorononanoic acid)	9	-	10
PFHxS (perfluorohexanesulfonic acid)	65	-	9
PFBS (perfluorobutane sulfonic acid)	345	2,000	2,000
GenX (hexafluoropropylene oxide dimer acid and its ammonium salt)	-	10	10

**These are interim HALs.*

***Health-based water concentration (HBWC) are the "acceptable" values used to create a ratio of observed/acceptable for each of 4 PFAS. If the ratios add up to more than 1.0, action must be taken to lower PFAS in the drinking water.*

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MCL and Hazard Index: Example

PFAS	PFAS Name	SAL ng/l	Proposed MCL, ng/l	HBWC	Results, ng/l	Hazard Index	SAL Exceedance?	MCL Exceedance?	HI Exceedance?
PFOA	(PFOA) PFoctanoic acid	10	4		3.45		No	**No**	
PFOS	(PFOS) PFoctane sulfonic acid	15	4		79.9		Yes	**Yes**	
PFNA	(PFNA) PFnonanoic acid	9		10		0.00			
PFHxS	(PFHxS) PFhexane sulfonic acid	65		9	63.9	7.10			
PFBS	(PFBS) PFbutane sulfonic acid	345		2000	17.9	0.01			
GenX	GenX Chemicals			10		0.00			
HI	**Hazard Index**					**7.11**			**Yes**

PFAS SAL, MCL, and HI Exceedances in Island County

PWSID	System Name	Analyte Name	Result Qty, ng/l; unitless	SAL Exceedance?	MCL/HI Exceedance?
31440	HARRINGTON LAGOON WATER ASSN	(PFOS) PFoctane sulfonic acid	79.9	**Yes**	**Yes**
31440	HARRINGTON LAGOON WATER ASSN	Hazard Index	7.11	No	**Yes**
61750	NORTHGATE TERRACE COMMUNITY CLUB	Hazard Index	0.93	No	**Yes**
88215	Whispering Pines Homeowners Coop	(PFOA) PFoctanoic acid	4.35	No	**Yes**
88215	Whispering Pines Homeowners Coop	(PFOS) PFoctane sulfonic acid	4.95	No	**Yes**
88215	Whispering Pines Homeowners Coop	Hazard Index	3.49	No	**Yes**

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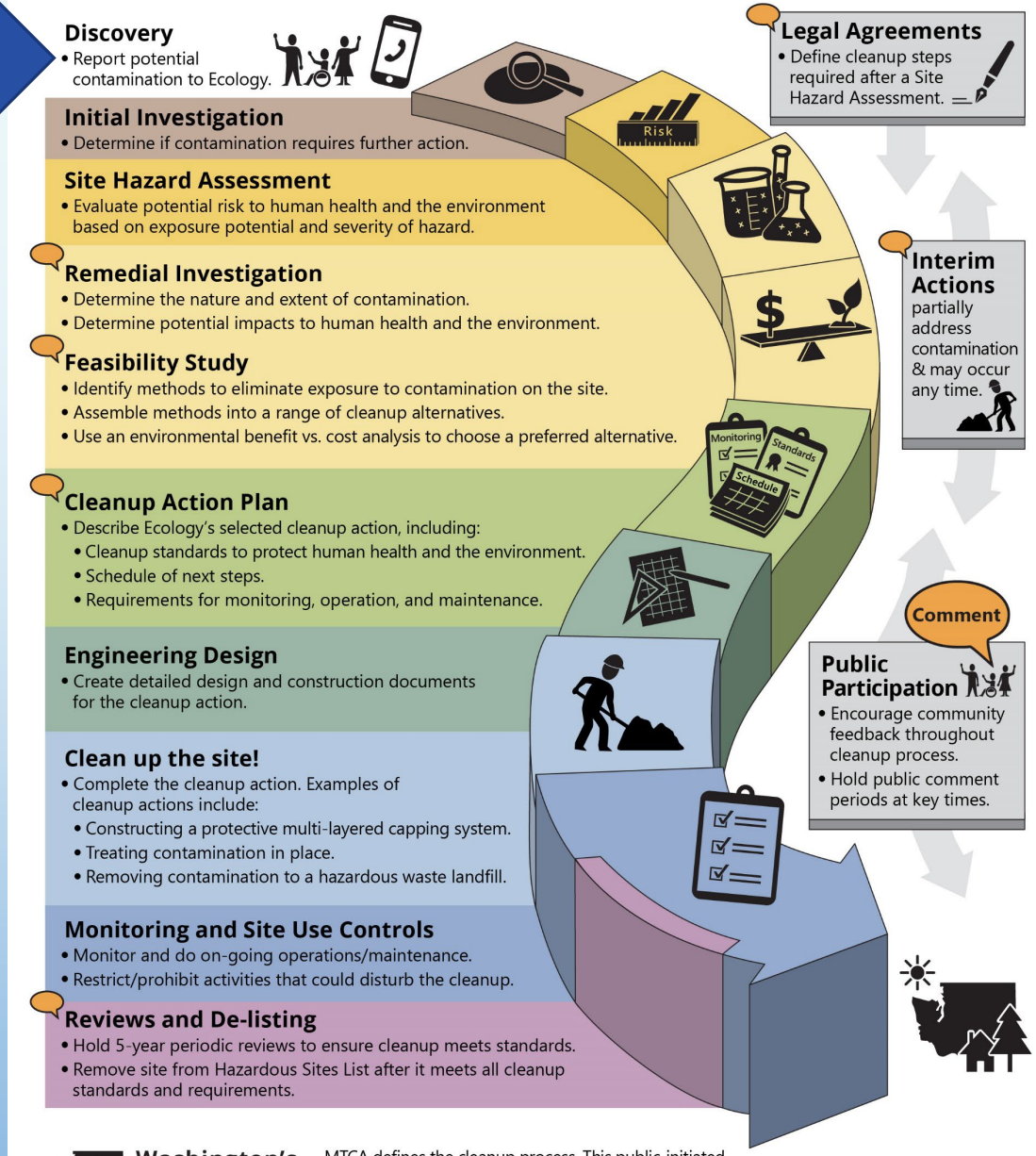
[Cleanup process - Washington State Department of Ecology]

You are here

Discovery
- Report potential contamination to Ecology.



Public Participation Grant Update

- Grant awarded
- Presented to Evergreen Rural Water of Washington
- DOH Forum Planning Team
- Ecology ERTS process
- Working on funding for testing private wells
- Public meetings in second quarter
- Applying for next grant round