

Air Force Civil Engineer Center



Pease RAB Meeting

7 March 2019



Agenda



- **Welcome and Introduction** – Carri Hulet (Consensus Building Institute)
 - Approve summary from October 2018 RAB meeting
 - Membership Update
 - Discussion & decision on minor revision of RAB Operating Procedures
- **Air Force Cleanup Update** – Roger Walton (AFCEC)
 - AIMS site and other key project updates since the last meeting
- **Non-target Analysis Project Overview** – Andrea Amico (RAB member)
 - Overview of Testing for Pease Non-Target Analysis project
- **Portsmouth Water Treatment** Brian Goetz (City of Portsmouth)
 - Brief update on water treatment activities
- **Supplemental Site Inspection Results TBD (Wood E&IS)**
 - Presentation of results from supplemental site inspection (SSI) of shellfish, groundwater, etc.
 - Discussion
- **Open Discussion Time**
 - Opportunity for RAB members to discuss additional topics.
- **Public Comments**
 - Members of the general public may request up to 3 minutes to speak.
- **Meeting recap, upcoming meeting date** – Carri Hulet
- **Adjourn**



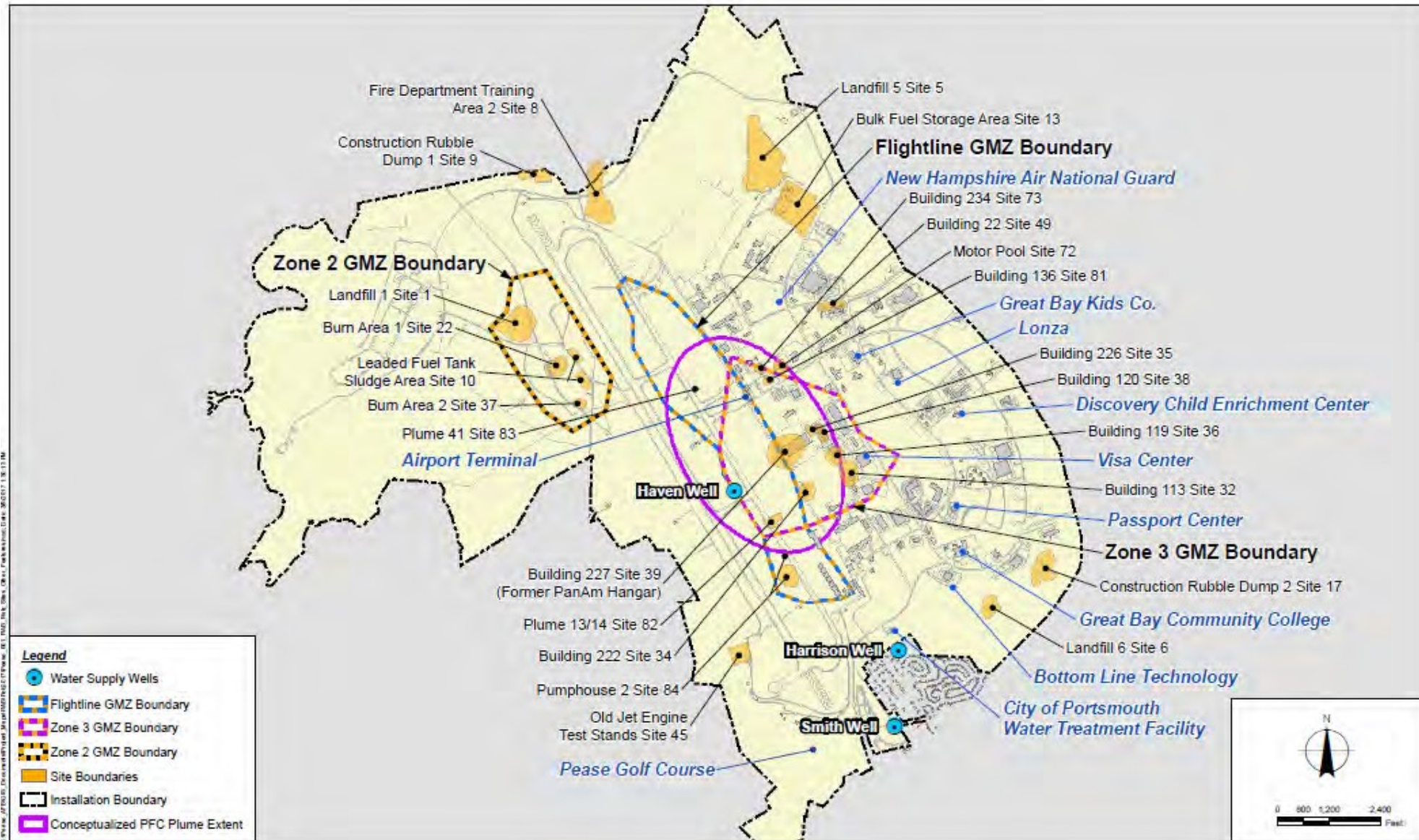
RAB Member Administrative Items



- Approve summary from October 2018 RAB meeting
- Membership Update
- Discussion & decision on minor revisions of the RAB Operating Procedures
- Discuss process questions raised by RAB members



Pease Sites Map





Air Force Clean Up Update



Roger Walton
Air Force Civil Engineer Center



Activities Since Oct 2018



- PFOS/PFOA Supplemental Site Investigation
 - Shellfish Sampling (Nov-Dec)
 - Surface Water/Groundwater Sampling (Dec)
- Site 8 IMS
 - Operations continue; first two quarterly reports (Apr - Dec 18) to be merged; draft to AF this week
 - Testing for Pease collected samples for non-target analysis on 6 Dec 18
- Airfield IMS
 - Construction nearing completion
 - Initial operations to begin 1 April 19



AIMS Construction





Activities Since Oct 2018



- Site-Wide PFOS/PFOA Monitoring
 - Semi-Annual sentry well monitoring completed in Nov 18
 - December private well sampling completed
 - March private well sampling being conducted this week
 - Monthly municipal well sampling on-going
- IRP Sites
 - Proposed Plan for Site 39 (Bldg 227) released for public comment on 20 Feb 19; comments accepted until 30 Mar 19
 - AF proposing additional bioremediation at Site 49 (2 International Drive)
 - AF proposing remedial action completion with continued monitoring at Site 72 (Former Motor Pool)



Highlights (March – June 2019)



- Baseline Performance Monitoring Sampling for AIMS
- City breaks ground at Grafton Road Treatment Plant
- AIMS Operations Begin
- Draft Supplemental Site Investigation Report
- Performance Monitoring for Treatment Systems
- Monthly Municipal Well Sampling
- AIMS Tour and RAB Meeting – June 12th (*tentative*)



Testing for Pease

Non-Target Analysis Project Overview

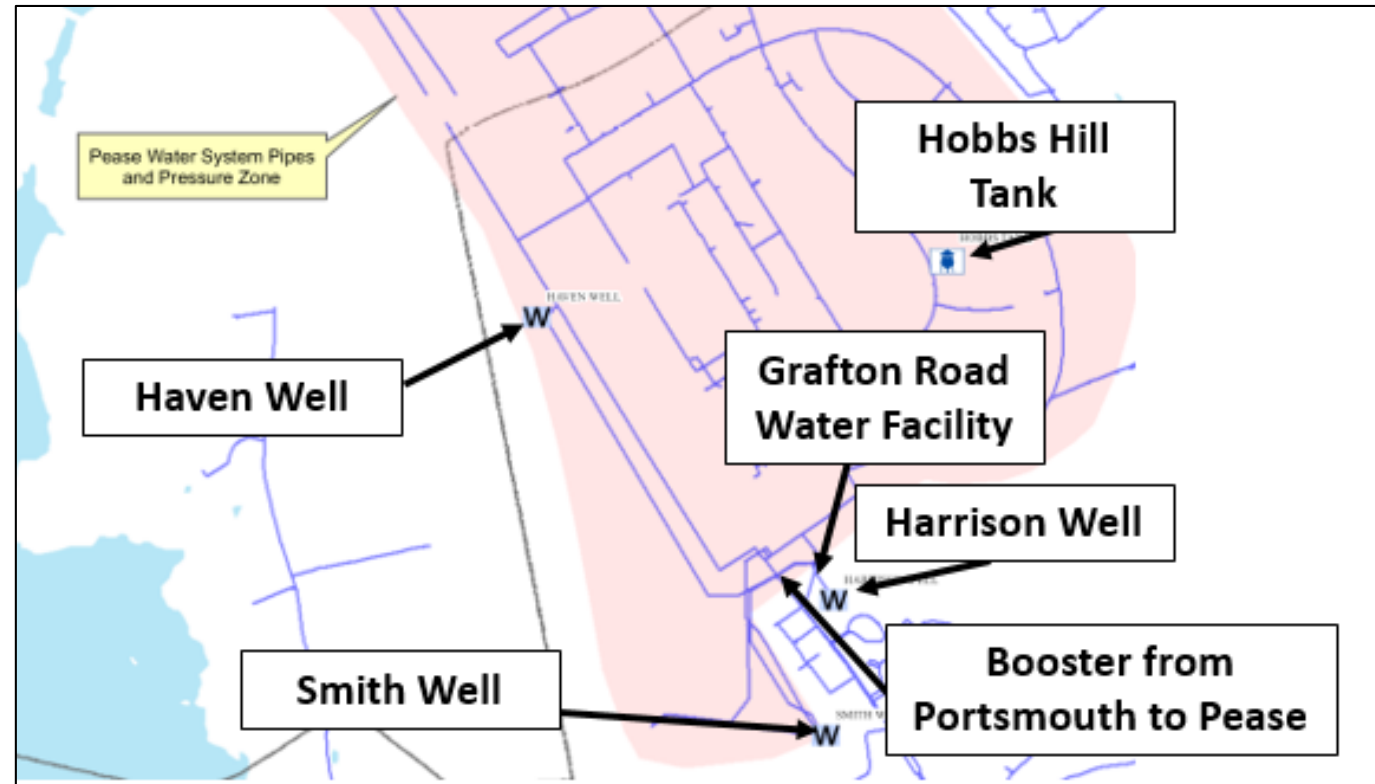
Andrea Amico

Pease Tradeport Water Treatment System Update



Pease Restoration Advisory Board
March 7, 2019

Current Pease Tradeport Grafton Road Water Facility



Filter Demonstration Project



- Activated carbon in both of the demonstration filters was changed out in November 2018
- Will continue to filter water from Harrison and Smith Wells
- Will also continue to sample and monitor filter performance throughout construction

Non Target Analysis

- Testing for Pease proposed study to City Council at October 1, 2018 meeting
- Began collecting samples after Council agreed to participate

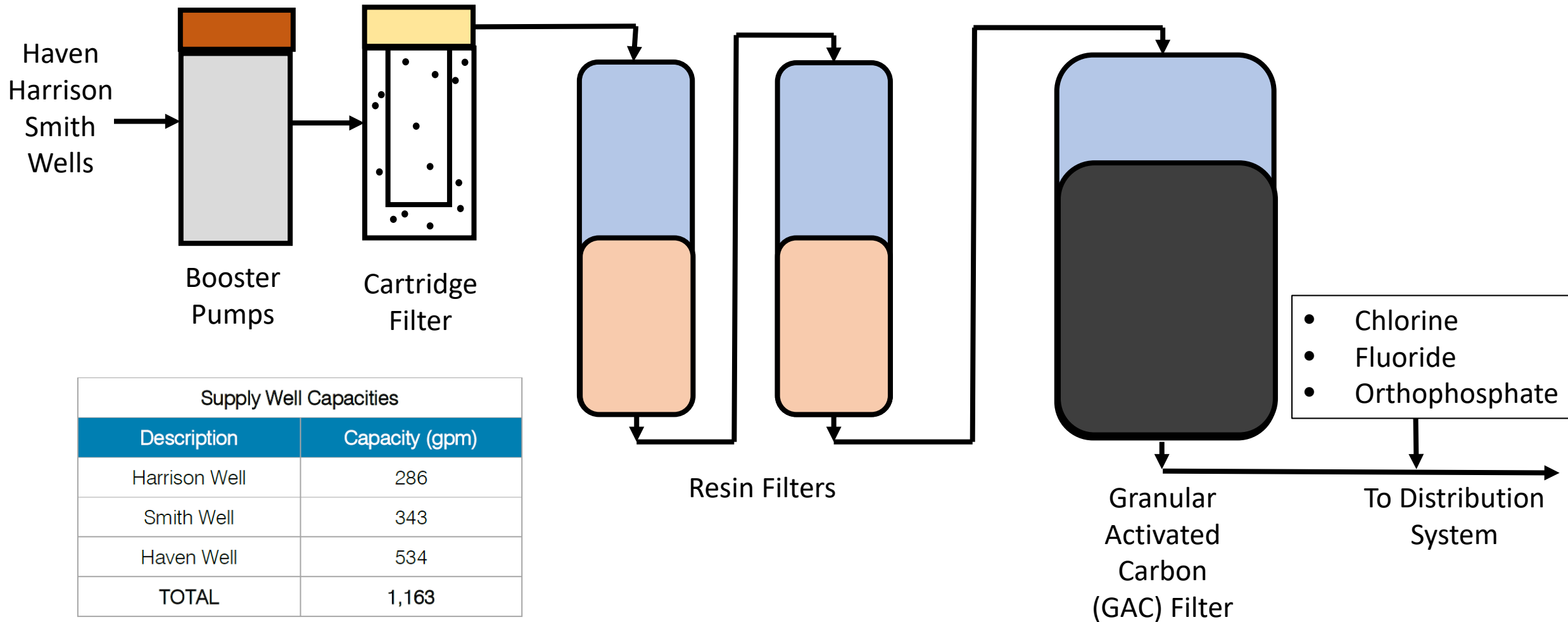
Current Rendering – Grafton Road Water Treatment Facility



- Five bids received in January 2019
- Kinsmen Corporation of Hookset, NH was low bidder and awarded project

Grafton Road Water Facility Process Schematic

Current Treatment System Design



Description	Capacity (gpm)
Harrison Well	286
Smith Well	343
Haven Well	534
TOTAL	1,163

Anticipated Construction Schedule

Activity	Duration	Start	Finish	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21		
Bidding	61	11/15/2018	1/15/2019	█	█																															
Contract Award	56	1/15/2019	3/12/2019			█	█	█																												
Notice to Proceed	0	3/12/2019	3/12/2019					★																												
Submittals	181	3/13/2019	9/10/2019					█	█	█	█	█	█	█																						
Equipment Procurement	224	6/4/2019	1/14/2020								█	█	█	█	█	█	█	█	█																	
Phase 1 - Building Addition & GAC Filters	379	6/10/2019	6/23/2020								█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
GAC Filters On-Line with Smith & Harrison	27	5/27/2020	6/23/2020																			█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Phase 2 - Resin Skid, Cartridge Filters, Booster Pumps	279	5/29/2020	3/4/2021																			█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Full System Start-Up with Smith & Harrison	48	1/15/2021	3/4/2021																															█	█	
Phase 3 - Admin Area, Site Work, Haven Well Online	200	10/15/2020	5/3/2021																																█	█
Full System Start-Up with Haven	42	3/4/2021	4/15/2021																																█	█
Final Completion	4	4/29/2021	5/3/2021																																█	█

Milestones:

- Spring 2019 – Begin Construction
- June 2020 – New GAC Filters (switchover of Harrison/Smith Wells)
- Spring 2021 – Startup with Resin/GAC filters (Harrison/Smith Wells)
- Summer 2021 – Haven Well Startup

Future Water Quality Monitoring of Haven Well and Pease Tradeport Aquifer

- Meeting in January 2019 with Air Force and regulators about developing a comprehensive water quality monitoring programs for:
 - Required Compliance Monitoring
 - Filter Performance Monitoring
 - Aquifer Monitoring

Thank You



Brian Goetz – Deputy Director of Public Works
City of Portsmouth, New Hampshire
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Air Force Civil Engineer Center



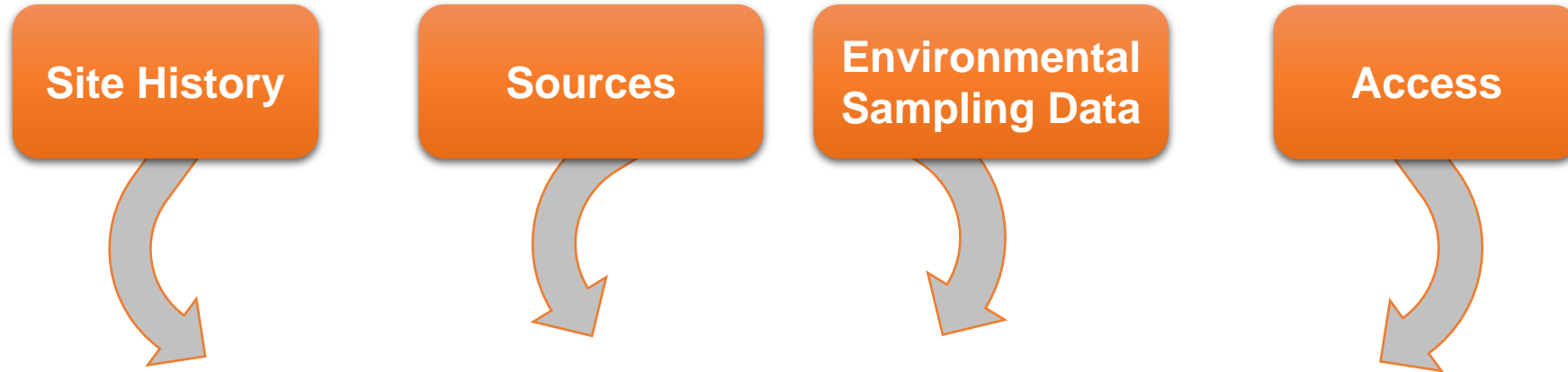
**Supplemental Site
Investigation Update
Former Pease AFB, NH
TO 0008**

**Wood E&IS
Amy Quintin**

7 March 2019



Pease PFOS/PFOA/PFBS Human Health Risk Screening



Where are PFOS/PFOA/PFBS coming from and going to?
How and where might people come into contact with PFOS/PFOA/PFBS?
How much is present at those locations?
Are the levels at those locations unsafe?



USEPA PFOS/PFOA/PFBS Screening Levels - Pease

Screening levels developed for use at Pease by USEPA for PFOS/PFOA/PFBS – November 2017. Results in parts per trillion (ppt)

Receptor & Exposure Pathway	Adult		Child	
	PFOS/PFOA	PFBS	PFOS/PFOA	PFBS
Child Recreator (wading – sediment ingestion/dermal contact)	-	-	609,000	609,000,000
Child Recreator (swimming – surface water ingestion)	-	-	2,030	2,030,000
Adult Recreator (swimming – surface water ingestion)	18,300	18,300,000	-	-
Fish Consumption (in fish tissue)	7,220	7,220,000	5,210	5,210,000
Shellfish Consumption (in shellfish tissue)	6,780	6,780,000	5,590	5,590,000
Composite Worker	1,640,000	1,640,000,000	-	-



Exposure Assessment Fall 2018

Conclusions from Fall 2018:

- Soil, freshwater surface water and sediment are safe for current use based on comparison to screening levels
- Data gaps identified within freshwater/sediment dataset
- Concentrations of PFOS/PFOA/PFBS in shellfish were unknown
- Concentrations of PFOS/PFOA/PFBS in marine surface water/sediment were unknown



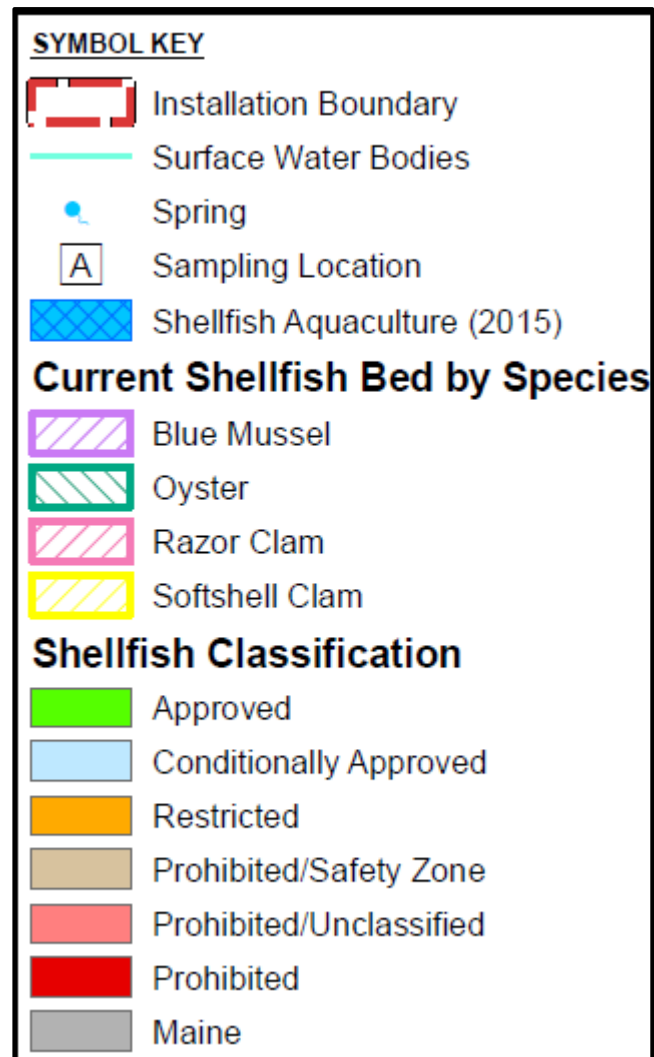
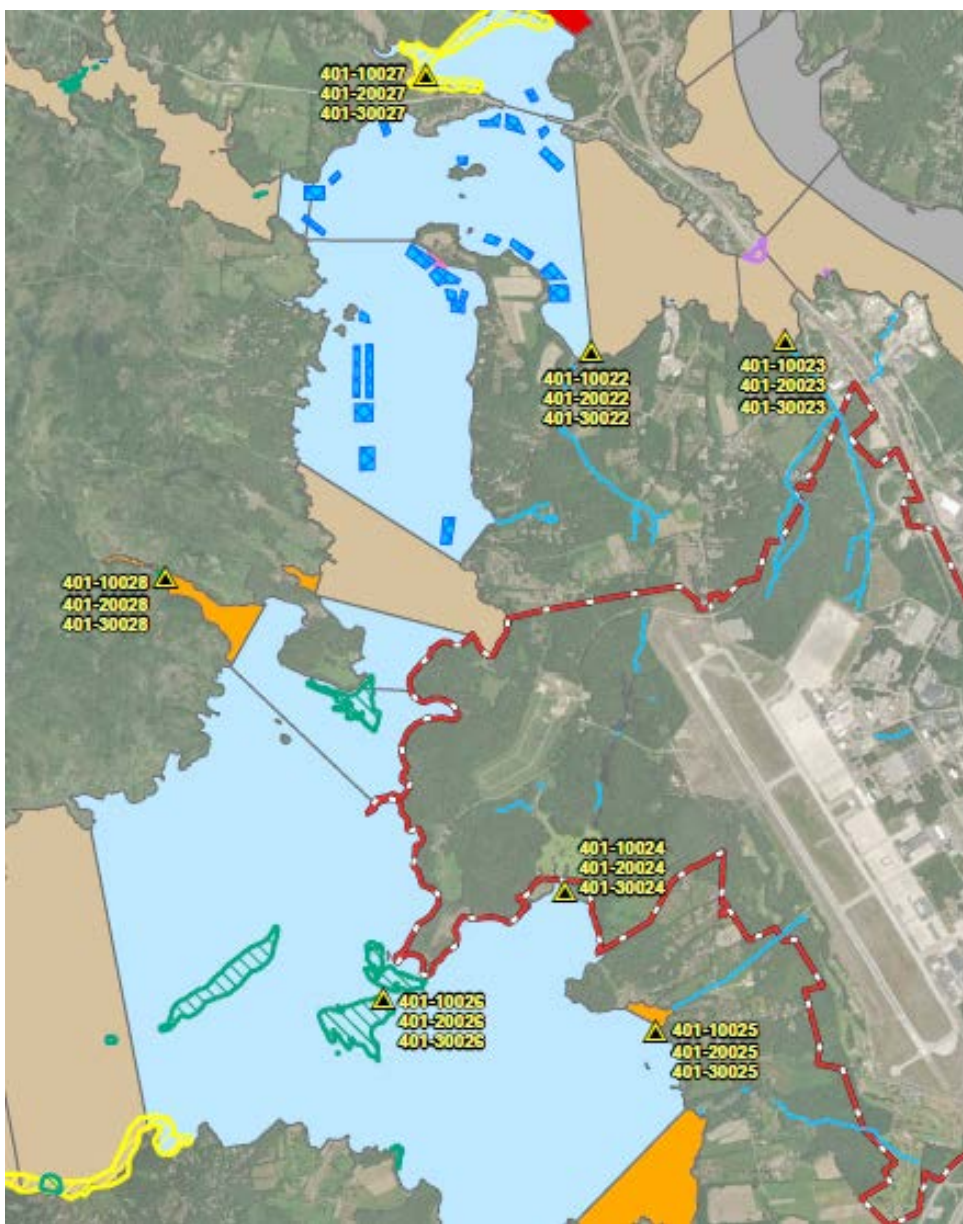
Exposure Assessment Fall 2018

Additional sampling was proposed to:

- 1) Fill freshwater sediment and surface water data gaps
- 2) Test concentrations of PFOS/PFOA/PFBS in shellfish, surface water, and sediment within Great Bay and Little Bay

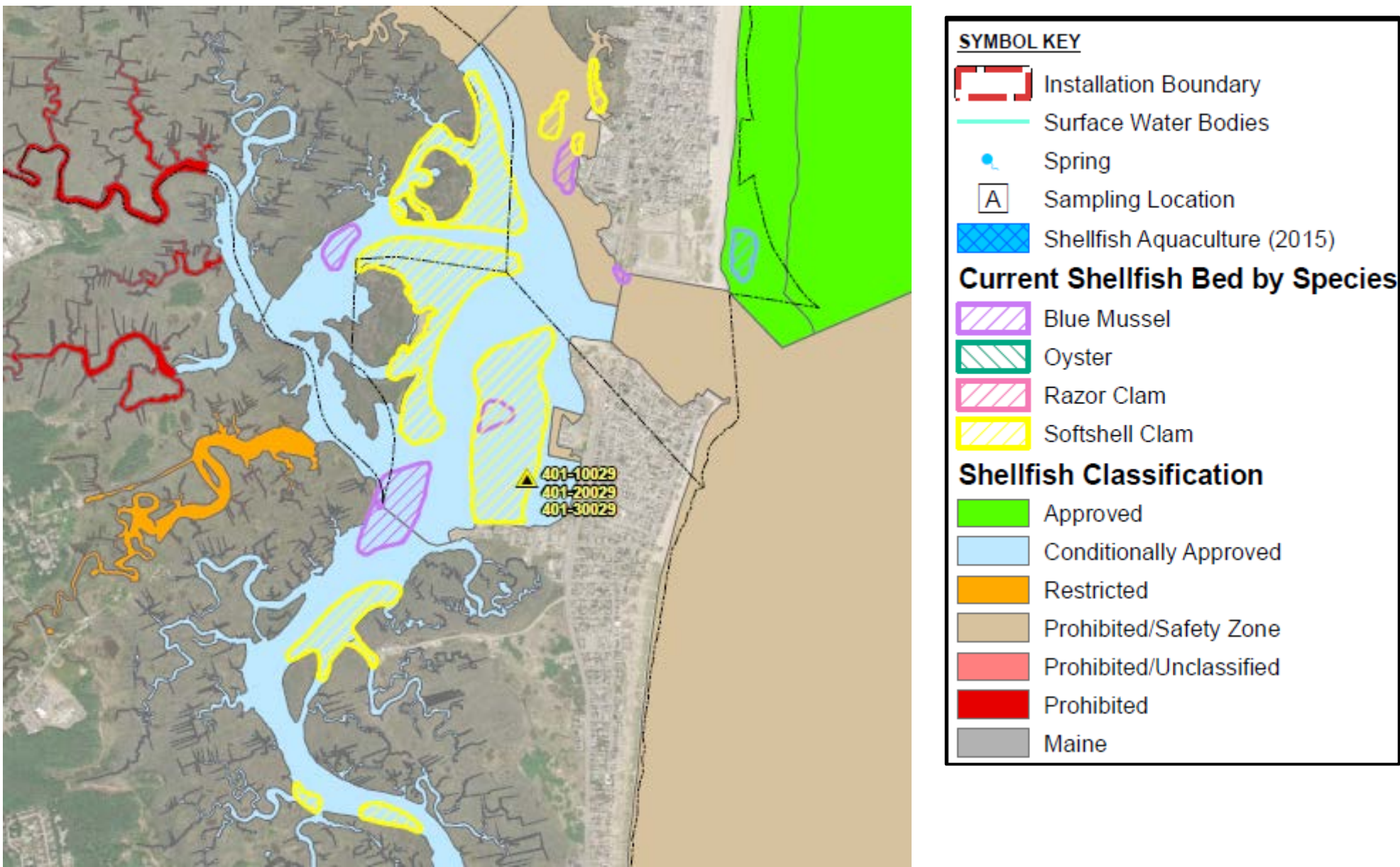


Shellfish Tissue/SW/Sediment Sample Locations – Little Bay/ Great Bay





Shellfish Tissue/SW/Sediment Sample Location – Hampton Harbor



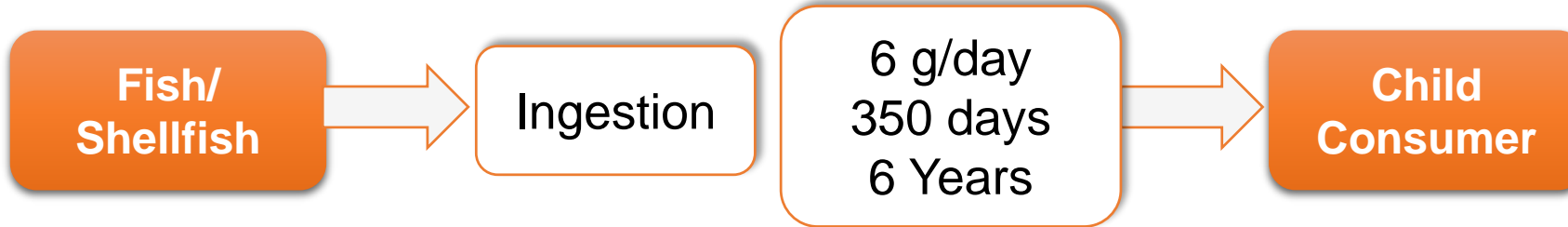


Shellfish Tissue Sample Collection Information

- Samples collected in November & December 2018
- One sample is made up of 10 individual shellfish per species
 - Three “replicate” samples were collected at each location when enough individuals were found
 - Some composite/replicate samples contained fewer than 10 individuals
- Clam samples were individuals greater than 2”, oyster samples were individuals greater than 3”
- Mussels were also identified in all sample locations and were also collected



Shellfish Consumption Data Conclusions



PFOA and PFBS not detected in shellfish
PFOS not detected in reference locations
PFOS concentrations below USEPA risk-based consumption screening levels at four target locations with the exception of one clam field duplicate/replicate
PFOS/PFOA/PFBS shellfish concentrations do not present unacceptable risks to consumers



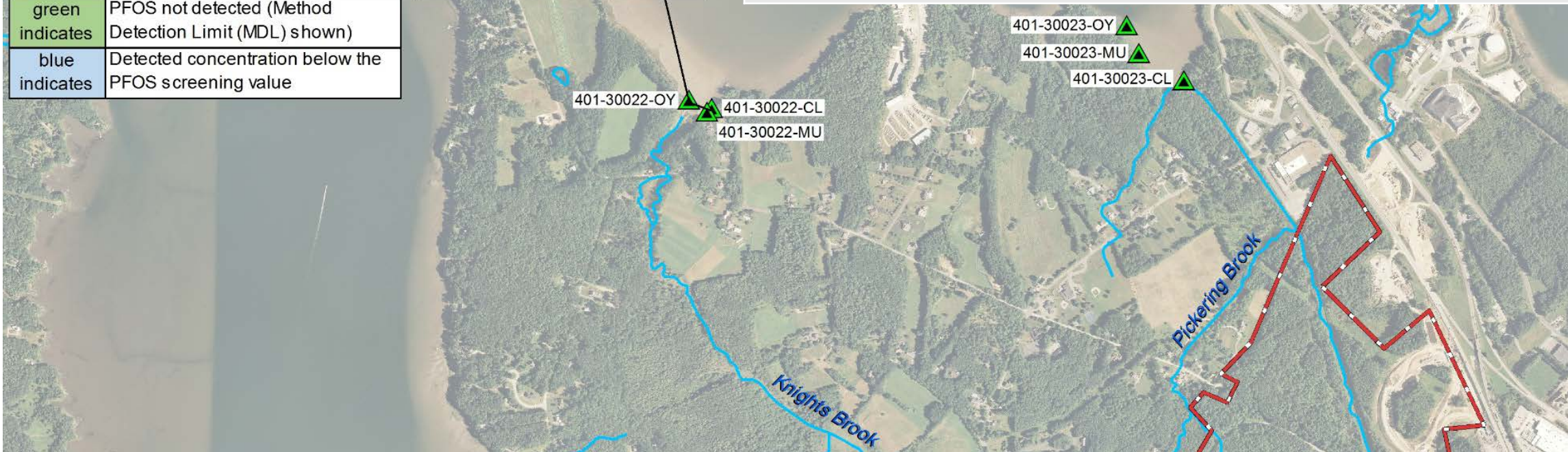


Broad Cove (Mouth of Knights Brook)

401-30022 (Broad Cove - Mouth of Knights Brook)	Sample Type	Clam	Mussel	Oyster
11/29/2018	Replicate 1	836 J	657 U	587 U
11/29/2018	Replicate 2	748 J	623 U	325 J
11/29/2018	Replicate 3	2,540	653 U	617 U
11/29/2018	Replicate 4 (Clams > 3 ")	833 J	-	-
11/29/2018	Duplicate/ Replicate	1,260	-	-

green indicates	PFOS not detected (Method Detection Limit (MDL) shown)
blue indicates	Detected concentration below the PFOS screening value

USEPA Screening Levels (Target HQ of 0.1)	PFOS (ppt)
Child Shellfish Consumption (in shellfish tissue)	5,590
Adult Shellfish Consumption (in shellfish tissue)	6,780

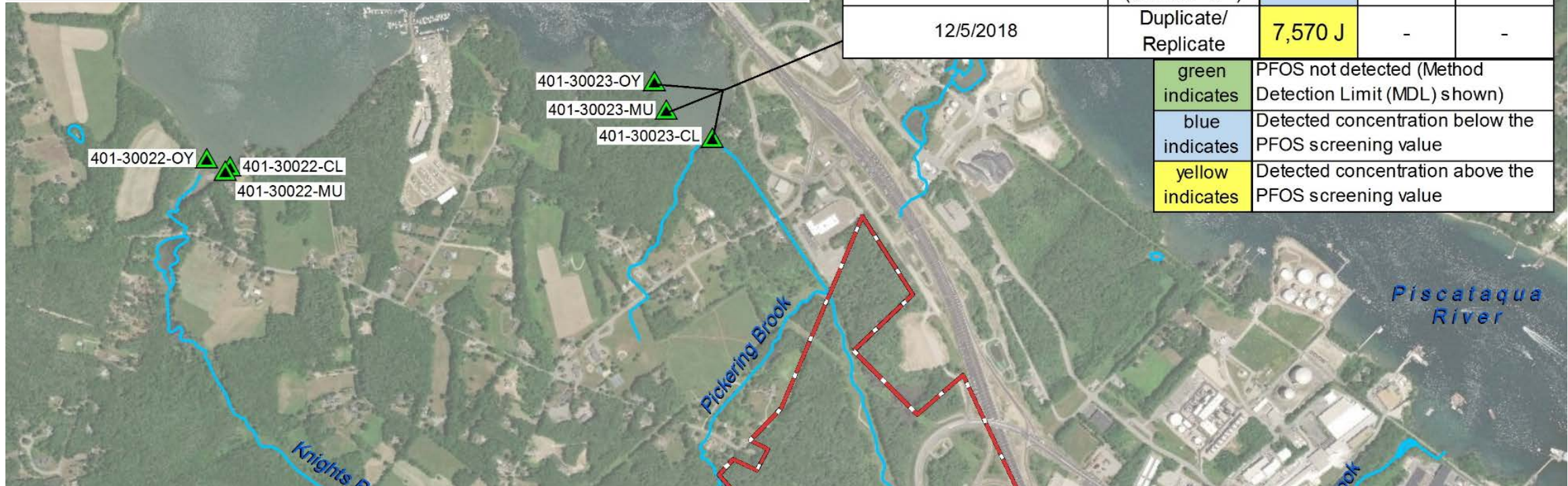




Tricky's Cove (Mouth of Pickering Brook)

USEPA Screening Levels (Target HQ of 0.1)	PFOS (ppt)
Child Shellfish Consumption (in shellfish tissue)	5,590
Adult Shellfish Consumption (in shellfish tissue)	6,780

401-30023 (Tricky's Cove - Mouth of Pickering Brook)	Sample Type	Clam	Mussel	Oyster
11/29/2018, 11/30/2018 & 12/5/2018	Replicate 1	1,210 J	437 J	508 J
11/29/2018 & 12/5/2018	Replicate 2	1,190	-	396 J
12/5/2018	Replicate 3	1,820 J	-	299 J
12/5/2018	Replicate 4 (Clams > 3 ")	361 J	-	-
12/5/2018	Duplicate/ Replicate	7,570 J	-	-



green indicates	PFOS not detected (Method Detection Limit (MDL) shown)
blue indicates	Detected concentration below the PFOS screening value
yellow indicates	Detected concentration above the PFOS screening value

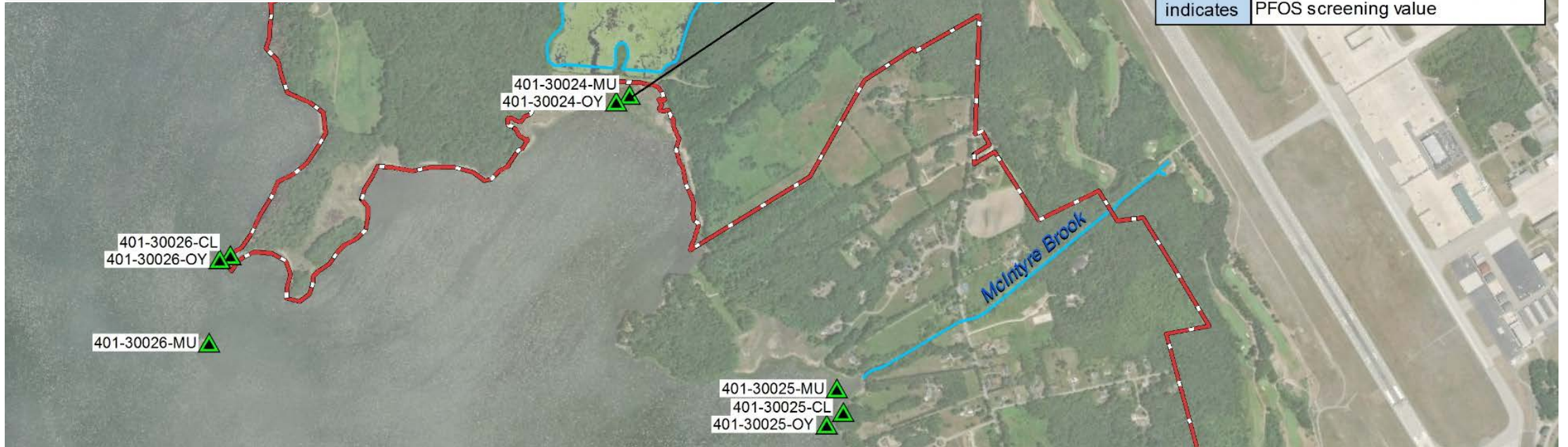


Herod's Cove (Mouth of Peverly Brook)

USEPA Screening Levels (Target HQ of 0.1)	PFOS (ppt)
Child Shellfish Consumption (in shellfish tissue)	5,590
Adult Shellfish Consumption (in shellfish tissue)	6,780

401-30024 (Herod's Cove - Mouth of Peverly Brook)	Sample Type	Clam	Mussel	Oyster
11/28/2018	Replicate 1	-	595 U	426 J
11/28/2018	Replicate 2	-	653 U	-
11/28/2018	Replicate 3	-	657 U	-
11/28/2018	Duplicate	-	650 U	-

green indicates	PFOS not detected (Method Detection Limit (MDL) shown)
blue indicates	Detected concentration below the PFOS screening value



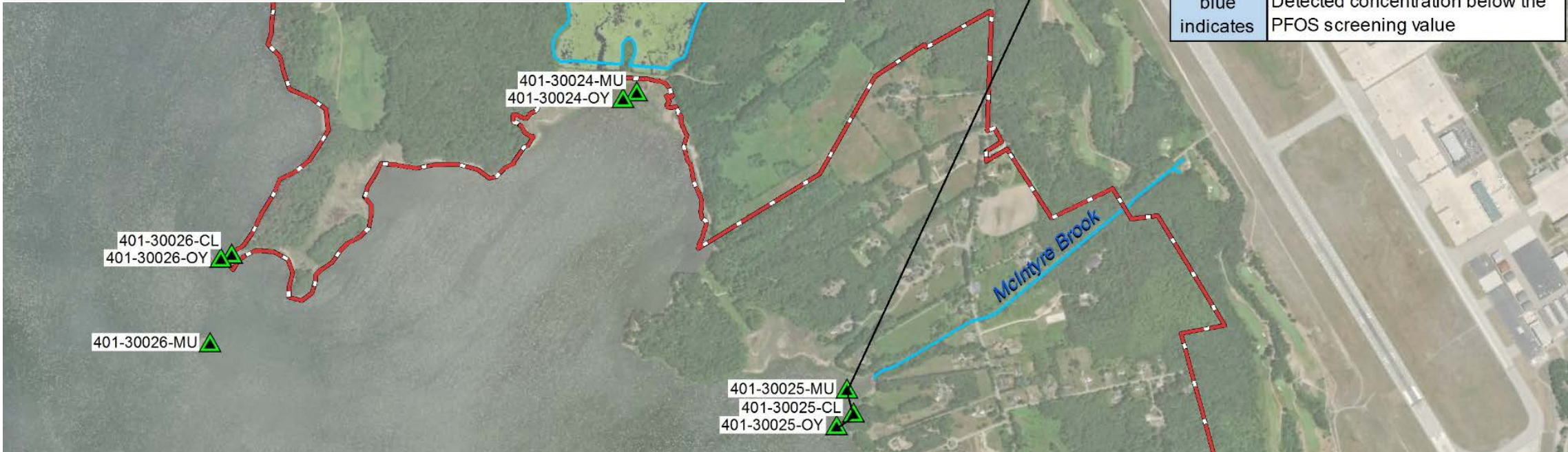


Great Bay (Mouth of McIntyre Brook)

USEPA Screening Levels (Target HQ of 0.1)	PFOS (ppt)
Child Shellfish Consumption (in shellfish tissue)	5,590
Adult Shellfish Consumption (in shellfish tissue)	6,780

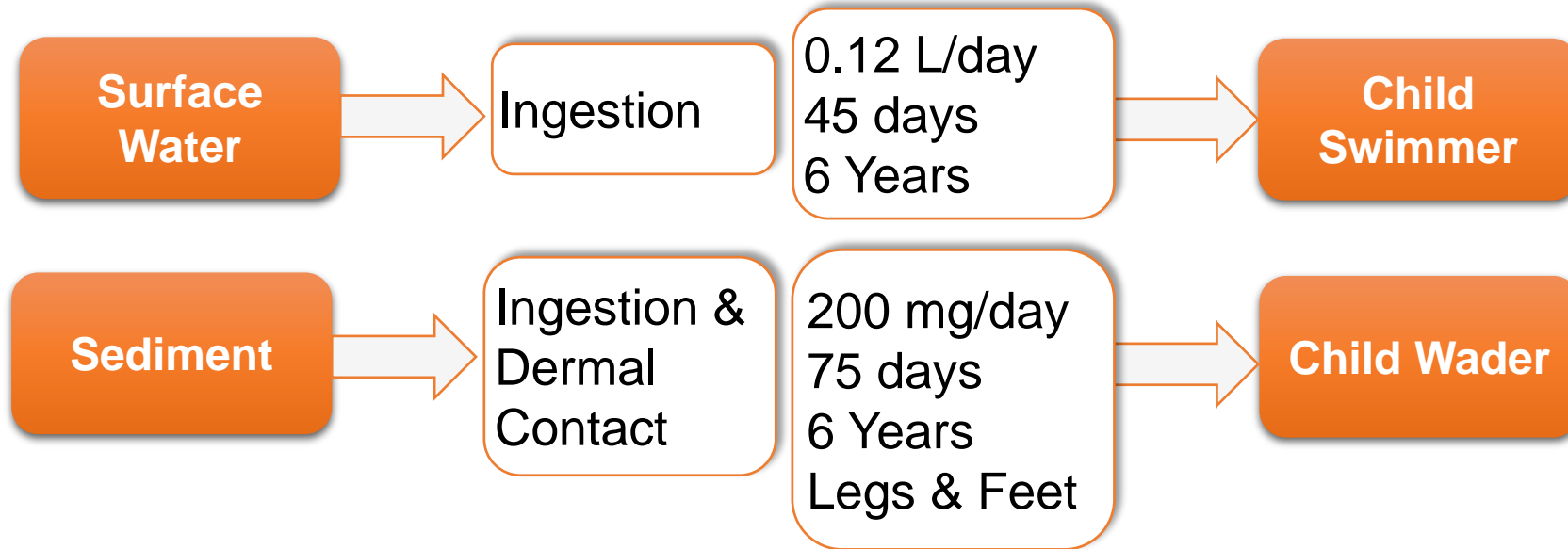
401-30025 (Great Bay - Mouth of McIntyre Brook)	Sample Type	Clam	Mussel	Oyster
11/28/2018	Replicate 1	628 J	647 U	331 J
11/28/2018 & 11/29/2018	Replicate 2	994	632 U	421 J
11/28/2018	Replicate 3	-	644 U	603 J
11/28/2018	Duplicate/Replicate	-	-	460 J

green indicates	PFOS not detected (Method Detection Limit (MDL) shown)
blue indicates	Detected concentration below the PFOS screening value





Co-located Estuarine Surface Water/Sediment Samples



All estuarine PFOS, PFOA, and PFBS concentrations co-located with shellfish samples were below USEPA recreational screening criteria

Estuarine surface water and sediment is safe for recreational use



Additional Freshwater Surface Water/Sediment Samples



Sample locations primarily selected to confirm nature and extent – fill data gaps
Surface water locations with potential access:

Great Bog – Displaced Population (drinking water)

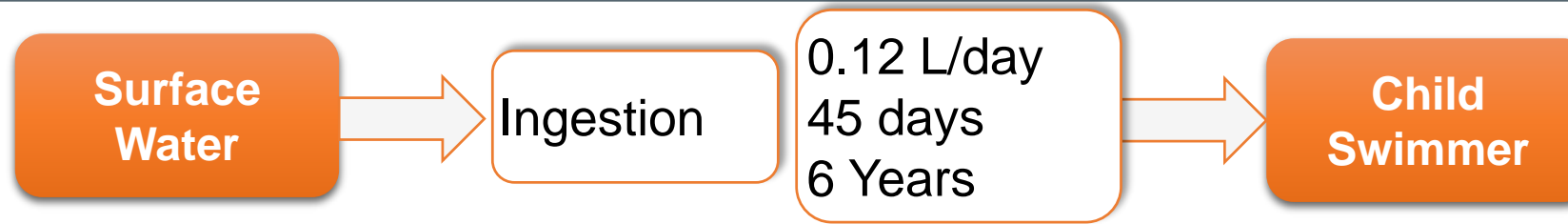
Elementary School

Golf Course

Pickering Brook Swimming Location



Additional Freshwater Surface Water Samples



Eighteen additional freshwater samples were collected

All PFBS concentrations in freshwater surface water were below USEPA screening criteria

Concentrations of PFOS + PFOA exceeded the USEPA screening criteria (2,030 ppt) at a target HQ of 0.1 at four locations:

Flagstone Brook at crossing of Arboretum Drive (PFOS + PFOA = 3,560 ppt)

Pauls Brook at PAFB Boundary (PFOS + PFOA = 3,078 ppt)

Knights Brook, just downstream of Watering Spring and Pickering Spring (PFOS + PFOA = 2,330 ppt)

Watering Spring (PFOS + PFOA = 3,500 ppt)

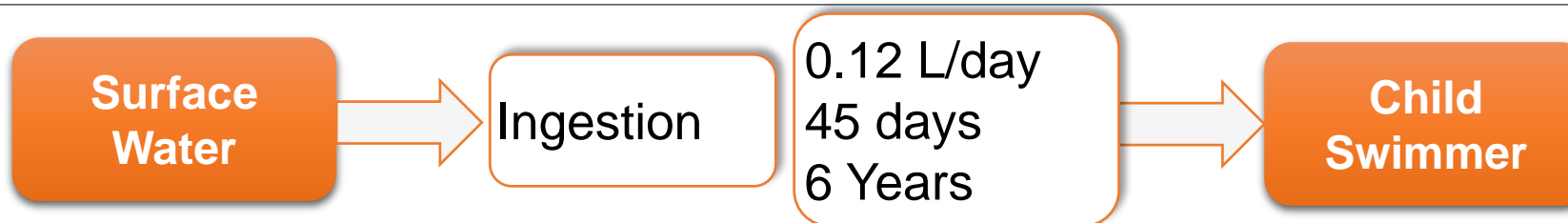
Locations are shallow and not attractive/available to swimming

All similar to previous detected concentrations

Great Bog sample 5.9J ppt for PFOA only



Freshwater Surface Water Overview



All PFBS concentrations in freshwater surface water below USEPA screening criteria
Concentrations of PFOS + PFOA exceeded the USEPA screening criteria (2,030 ppt) at a target HQ of 0.1 at four locations:

Flagstone Brook

Pickering Brook (southern section only)

Pauls Brook at PAFB Boundary

Watering Spring

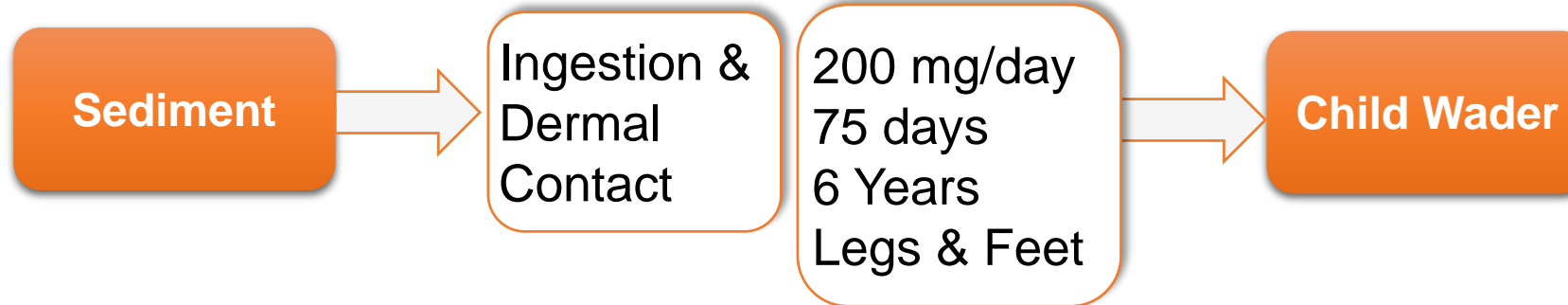
No concentrations are above 10 times the screening value (HQ 1.0)

Locations are typically shallow and not attractive to swimming – no evidence of swimming occurring

Freshwater surface water is safe for current recreational use



Additional Freshwater Sediment Samples



Eleven additional freshwater sediment samples were collected

All freshwater PFOS, PFOA, and PFBS concentrations in sediment were below USEPA screening criteria

Previous sediment sampling was also below USEPA screening criteria

Freshwater sediment is safe for recreational use



Updated Exposure Assessment Conclusions

Soil, freshwater surface water and sediment are safe for current use

Marine surface water/sediment are safe for current use

Concentrations of PFOS/PFOA/PFBS in shellfish are safe for consumption





Open Discussion Time



- **Opportunity for RAB members to discuss additional topics**



Public Comment



Goal: Provide opportunity for members of the public to comment.

Process:

- Public members fill out a comment card if you wish to speak.
- 3 min limit per speaker.
- Speakers will be notified when they have 30 seconds remaining & at the 3 min mark.



RAB Meeting Recap.



- **Meeting Recap**
- **Action Items**
- **Next Steps**
- **Next meeting – June 12th (proposed)**



Adjournment



