

2022 CONNECTICUT SHELLFISH COMMISSION GATHERING

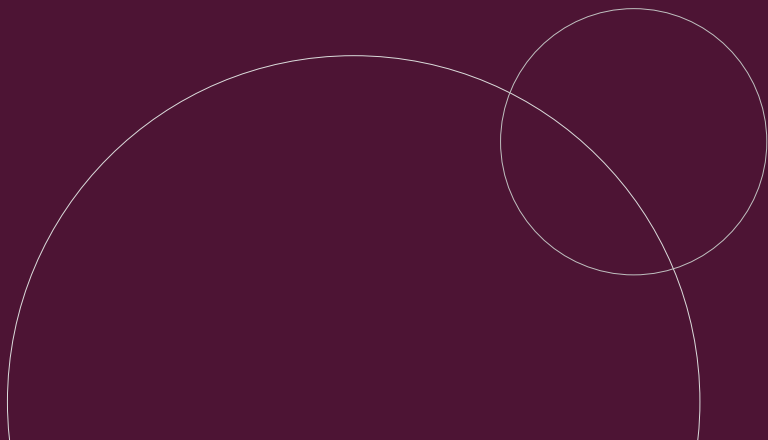
CONNECTICUT DEPARTMENT OF AGRICULTURE, BUREAU OF AQUACULTURE

EMILY MARQUIS, FISHERIES BIOLOGIST I

OVERVIEW OF PRESENTATION

- Harmful Algal Bloom Update
- Statewide Shellfish Disease Update
- Per- and Polyfluoroalkyl Substances (PFAS) Update
- Vibrio Update

2021 PFAS UPDATE



WHAT ARE PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)?

- PFAS are a group of 5,000+ man-made chemicals that are persistent in the environment.
- PFAS were widely used in manufacturing, non-stick products and food packaging, and fire fighting foam, to name a few sources.
- Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are 2 of the most widely used and studied PFAS chemicals.
- Scientific studies have demonstrated PFAS have reproductive, developmental, carcinogenic, immune, and hormonal effects on humans.
- The EPA began establishing PFAS health advisories for drinking water in 2016.
- Additional information is available on www.epa.gov/pfas

PFAS HISTORY IN CONNECTICUT

- 2013-15 – EPA-mandated testing confirms that none of Connecticut’s large public drinking water systems contain elevated PFAS levels.
- 2016 – DPH adopts the EPA drinking water action level (70 ppt).
- June 2019 – PFAS firefighting foam spill into the Farmington River gains press attention.
- November 2019 – PFAS Action Plan released, listing evaluating food sources, including shellfish, as PFAS exposure pathways as a key recommended action.
- 2020 – DEEP develops GIS map of PFAS sources, and establishes a PFAS takeback program.
- 2021 – Alternative fluorine-free firefighting foam identified.
- Learn more at: <https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/Contaminants-of-Emerging-Concern/Per--and-Polyfluoroalkyl-Substances?msclkid=8f24df2faf8811ecad36d4e0f7989e5f>

PFAS ARE DETECTABLE IN FISH AND SHELLFISH

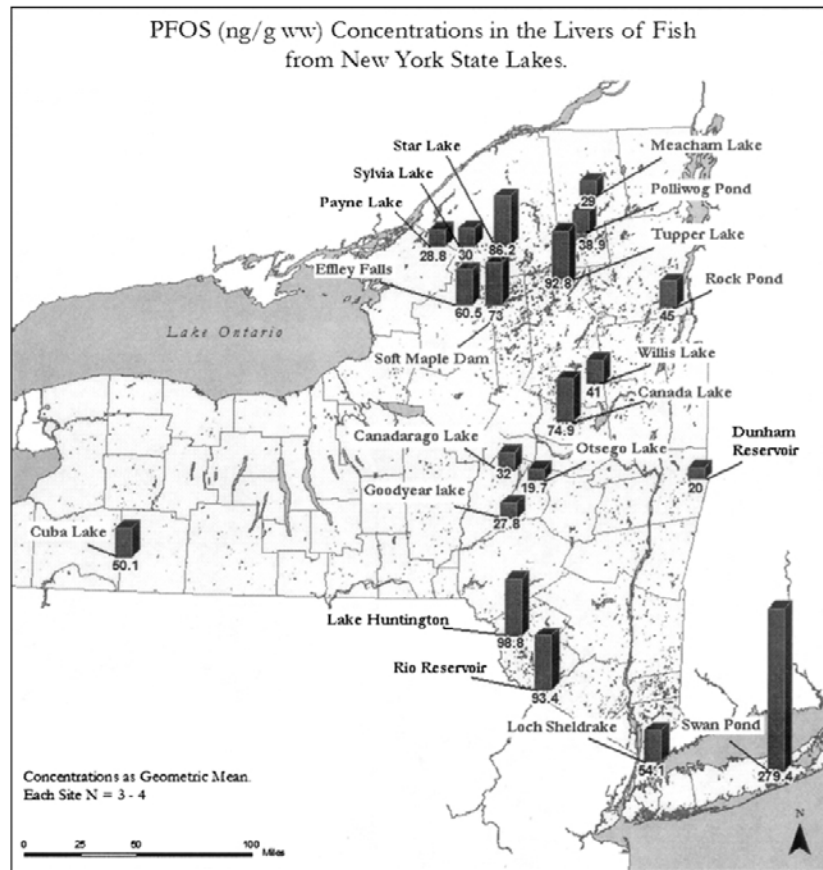


Fig. 2. Map showing liver PFOS concentration (ww; wet weight) in bass (smallmouth and largemouth) from New York State inland lakes

Kannan et al. 2002

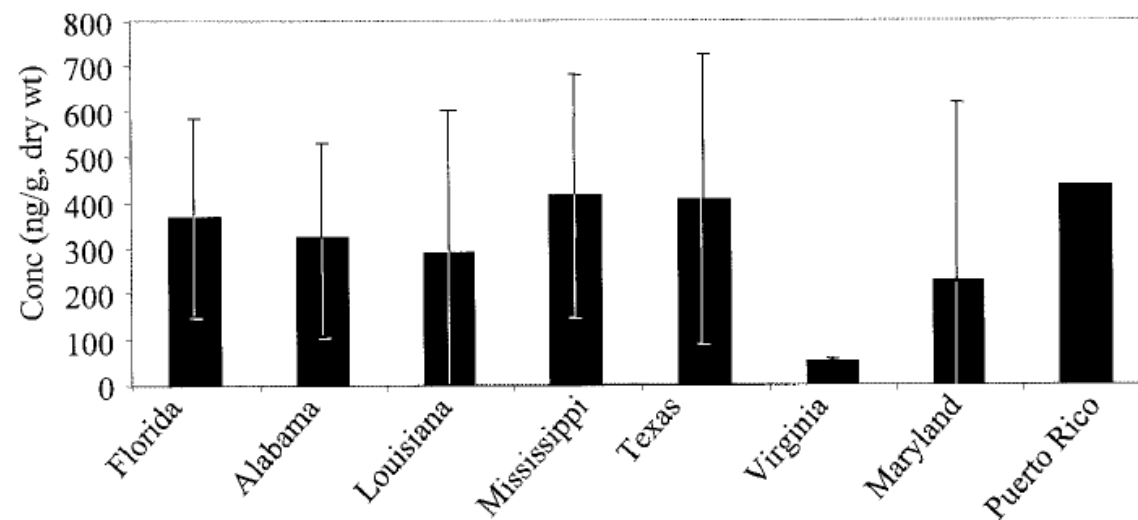


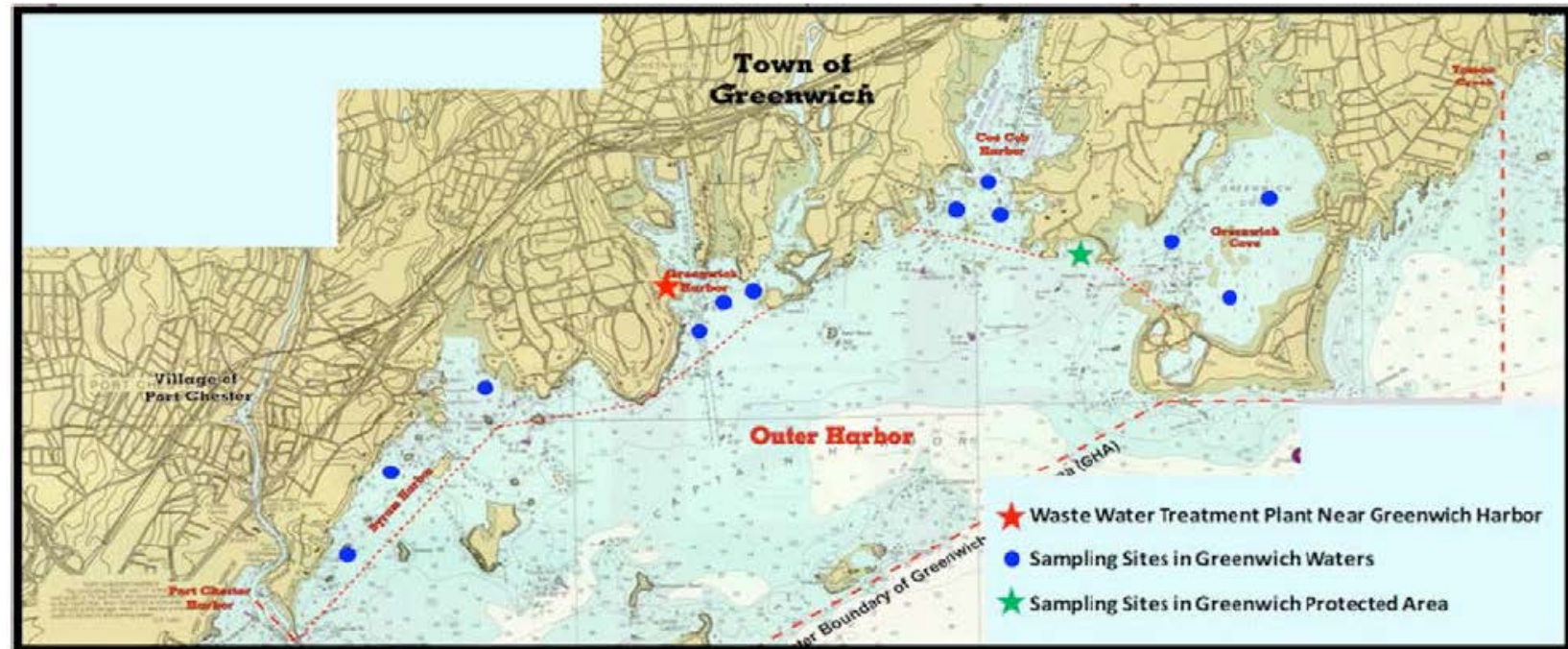
Fig. 3. Concentrations (mean \pm SD) of PFOS (ng/g DW) in oyster, *Crassostrea virginica*, from various coastal locations in the Gulf of Mexico and Chesapeake Bay. Concentrations are presented state-wise

Sinclair et al. 2006. This data is not relevant to fish consumption since they analyzed fish liver, but demonstrates PFAS contamination and uptake in NY fish.

GREENWICH 2020 PFAS TESTING IN WATER, SHELLFISH, AND SEDIMENT SAMPLES

All samples were non-detectable for 14 PFAS chemicals!

Study performed by UConn CESE (Willig, Perkins, and Provatas)



SAMPLING LOCATIONS IN GREENWICH WATERS OF LONG ISLAND SOUND							
	Byram Harbor	Cos Cob Harbor	Greenwich Harbor	Greenwich Cove	Protected Area	Trip Blank	Total
Water samples per site	3	3	2+1 dup	3	1	1	13+1 dup
Sediment samples per site	3	2	2+1 dup	3	0	0	10+1 dup
Oyster samples per site	1	3	3+1 dup	4*	1	0	11+1 dup
Total number of samples	7	8	7+3 dups	10	2	1	38
Note: * a separate oyster and hard shelled clam sample was collected and analyzed from the Greenwich Cove 2 site							

FUTURE PFAS WORK

- The Greenwich 2020 study authors are conducting a study in Groton this year.
- We are currently waiting to see if we receive funding from the legislature for shellfish PFAS testing along the coastline.
- FDA is currently working on establishing PFAS regulations for shellfish.

WEBSITE RESOURCES

Welcome to the Bureau of Aquaculture

David H. Carey, Bureau Director

→ [Staff & Contact Us](#)

Follow us on Instagram: [@aquaculture_ct](#) | Read about [CT Aquaculture in the News](#)

General information about the Bureau

→ [Shellfish Sanitation Program](#)

[Laboratory Services](#)

[Shellfish Area Classifications and Maps](#)

→ [Harmful Algal Bloom Monitoring](#)

→ Recreational Shellfishing

[Recreational Shellfishing and Shellfish Handling Guidance](#)

[Recreational Shellfish Growing Area Contacts, Hotlines, and Maps](#)

[Shellfish Commission Guidance Documents](#)

General Information about Connecticut Shellfish Aquaculture

[Environmental Benefits of Shellfish & Shellfish Aquaculture](#)

→ [Oyster & Clam Disease Fact Sheets](#)

→ [Shellfish Handling and Guidance](#)

→ [Importation Policy](#)

[Related Links](#) | [Definitions and FAQs](#)

2020 Guidance for Recreational Shellfish Harvesting in Connecticut



STATE OF CONNECTICUT

DEPARTMENT OF AGRICULTURE
BUREAU OF AQUACULTURE & LABORATORY

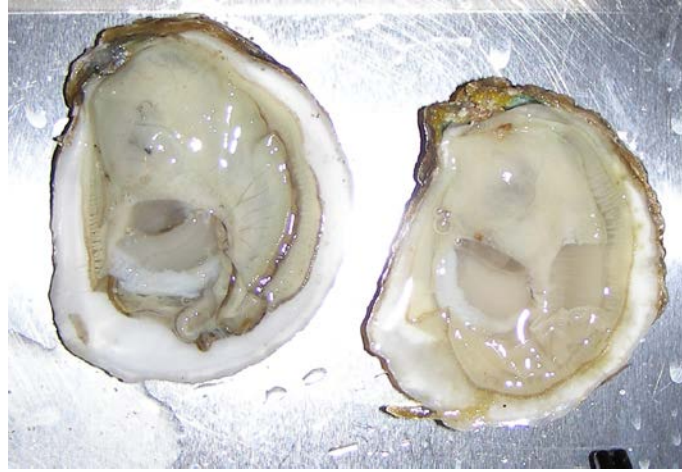


Recreational Shellfish Harvesting and Vibrio:

Vibrio parahaemolyticus Background and Summer Harvest Precautions

<https://portal.ct.gov/DOAG/Aquaculture/1/Aquaculture/Aquaculture-Home-Page>

QUESTIONS?



THANK YOU

Roger Williams
University

