

Western Washington University Western CEDAR

Salish Sea Ecosystem Conference

2018 Salish Sea Ecosystem Conference (Seattle, Wash.)

Apr 4th, 3:45 PM - 4:00 PM

Persistent bioaccumulatives in freshwater fish of the Lake Washington watershed

Jenee Colton King County, United States, jenee.colton@kingcounty.gov

Rory O'Rourke *King County, United States*, orourkr@kc1.mail.onsmicrosoft.com

Richard Jack King County, United States, richard.jack@kingcounty.gov

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PBTs in Freshwater Fish of the Lake Washington Watershed

By Jenée Colton, Rory O'Rourke, and Richard Jack

2018 Salish Sea Environmental Conference April 4-8 Seattle, WA



King County Tissue Monitoring Program

OBJECTIVES

- 1) Track changes over time
- 2) Inform ecological and human health risk
- 3) Detect change from wastewater or stormwater management actions
- 4) Fill data gaps as needed

FRESHWATER





Freshwater Program Cycle



- PBDEs,
- DDTs and chlorinated pesticides.



-ake WA Watershed



Species Collected





Photo: USGS

Photo: Chris Gregersen

Lake Washington Watershed Contaminants

Statewide mercury fish advisory

- Do Not Eat N. pikeminnow
- 2 meals/month Largemouth & smallmouth bass

ADVISORY

DO NOT EAT these fish due to chemical pollution.



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Cutthroat Trout: Only 1 meal a month.



GOOD TO EAT!

2-3 meals a week: Sockeye, Rainbow Trout, Pumpkin Seed 1 meal a week: Yellow Perch



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ССОТО СОХРЕТИТЕ 30 запана текуран, 1 крому Кану Габдуна, Серина, Санинала Со, м. Турана текура с Аблото Зауман 2017 ДОХ БУТЕХИ ПРИ СТАДО 3 и учаловика из Бралум Кану России уч Сорнан, Сенина и Собран Булика и Канала Сурна и Кани ПРИ КИКА СОХИНА — У Колимика на Канала и Каналана какура Канала Булика и Канала Канала Канала Сурна и Кана При полики учитика Санинана и Каналана и Каналана какура Канала Булика и Каналана Канала Канала Сурна и Канала

For more information, contact the Department of Health: 1-877-485-7316 www.doh.wa.gov/fish

Lake Washington Watershed Contaminants

L. Washington PCBs Fish Advisory

Added 1 meal/week - Large yellow perch (>270mm)

ADVISORY

DO NOT EAT these fish due to chemical pollution.

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Cutthroat Trout: Only 1 meal a month.

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For more information, contact the Department of Health:





Lake Washington Watershed Contaminants

CWA Impairments for Tissue

- L. Washington
- PCBs,
- chlordane, DDE, DDD, dieldrin,
- TCDD,
- mercury.
- L. Sammamish PCBs



Policy revision underway for State 303(d) Listings (Policy 1-11)

Large Yellow Perch Fillet - Hg



Large Yellow Perch Fillet - PCBs



DOH Screening Level (general pop'n)
DOH Screening Level (high consumer)

Smallmouth Bass Fillet - PCBs



DOH Screening Level (general pop'n) DOH Screening Level (high consumer)

Smallmouth Bass Fillet - PBDEs



DOH Screening Level (general pop'n)
DOH Screening Level (high consumer)

Smallmouth Bass Fillet - DDTs



PCBs L. Washington 2010 to 2014



PCB Method Changes



Lake Union



Conclusion

- PBTs lowest in L. Sammamish fish
- Smallmouth bass and yellow perch reliable
- Mercury advisory justified
- Possible fish consumption risk Lake Union for PCBs
- Advisory not needed for PBDEs
- Possible 303(d) listing DDTs in L. Union



Acknowledgements

- Dan Lantz, Chris Gregersen, Colin Elliott (King County)
- Keith Seiders (WA Dept. of Ecology)



