



Results of the GMP2 study on POPs in Air

Jacob de Boer, Rianne van Dijk

Overview

Countries:

- | | | |
|---------------------|--------|----------------------|
| ■ Fiji | ■ 2017 | ■ 1 PUF per 3 months |
| ■ Kiribati | ■ 2018 | ■ PCB, OCPs, BFRs |
| ■ Marshall Islands* | ■ 2019 | ■ Toxaphene |
| ■ Niue* | | |
| ■ Palau | | |
| ■ Samoa | | |
| ■ Solomon Islands | | |
| ■ Tuvalu | | |
| ■ Vanuatu | | |

LOD and LOQ, definitions

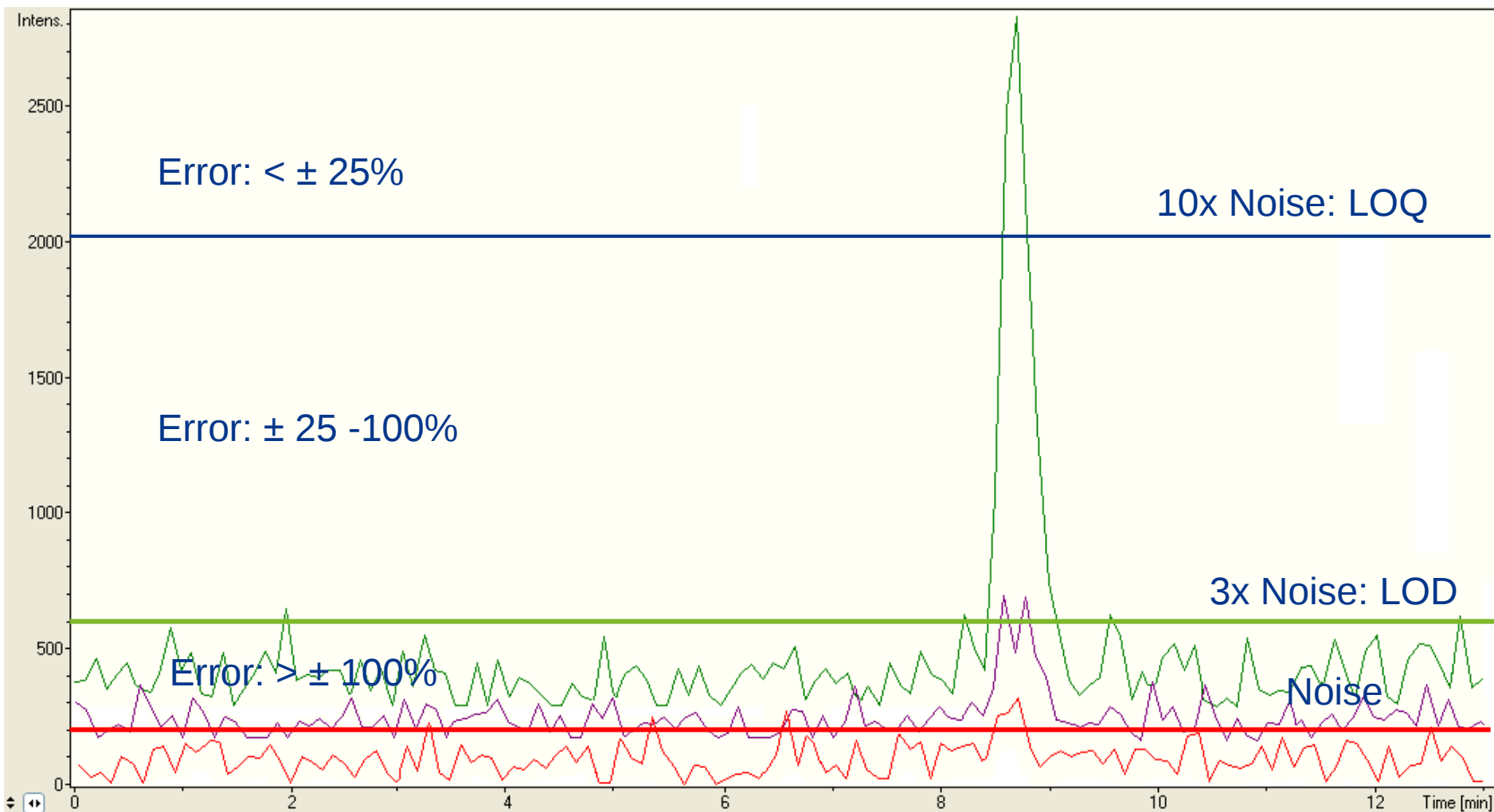
LOD - IUPAC definition

The smallest concentration of an analyte in the test sample that can be reliably distinguished from zero

LOQ - Definition by Eurachem

The lowest concentration of analyte that can be determined with an acceptable repeatability and trueness

How to determine LOD and LOQ?

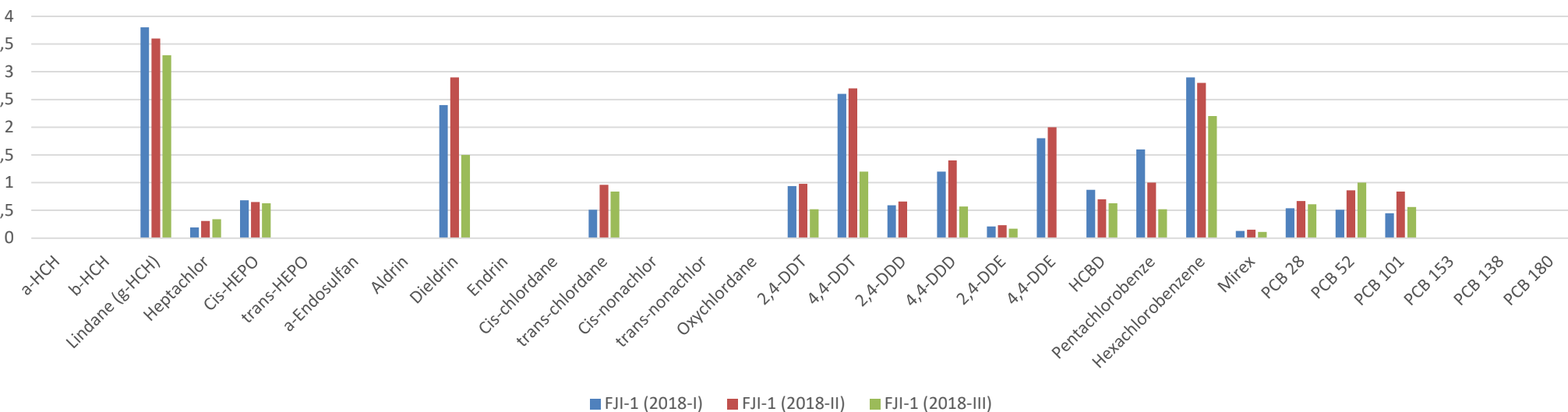


LOD and LOQ - examples

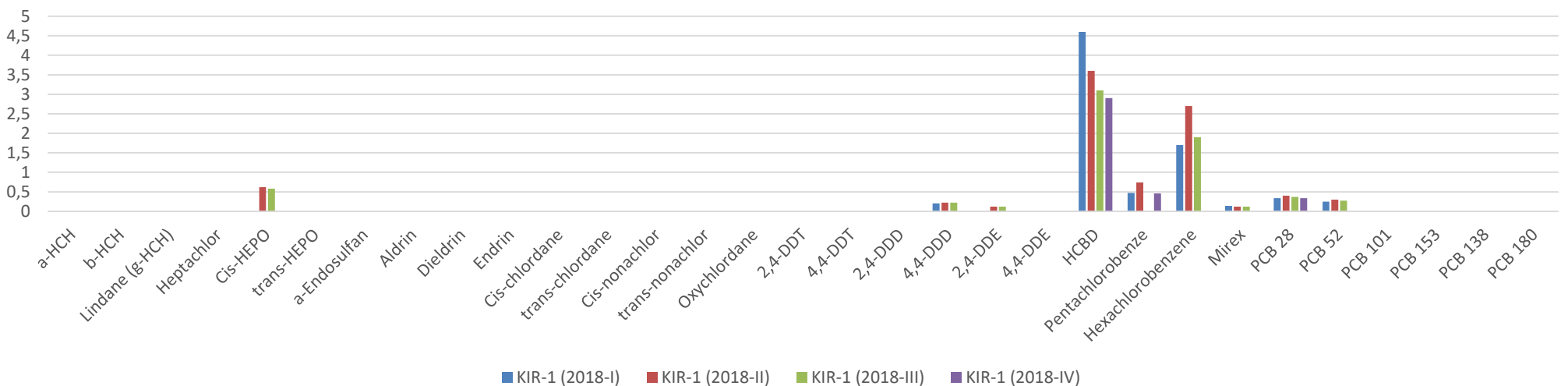
OCP	KIR-1 2017- III	KIR-3 2017- IV	KIR-1 2018-I	KIR-1 2018-II	KIR-1 2018- III	KIR-1 (2018- IV	KIR-1 2019-I	KIR-1 2019-II
a-HCH	*0.30	*0.24	<0.25	<0.25	<0.25	<0.22	*0.24	
b-HCH	<0.82	<0.79	<0.83	<0.83	<0.83	<0.90	<0.82	
Lindane (g-HCH)	*0.92	<0.56	<0.14	<0.14	*0.17	<0.49	<0.58	

Fiji and Kiribati – PCB/OCP

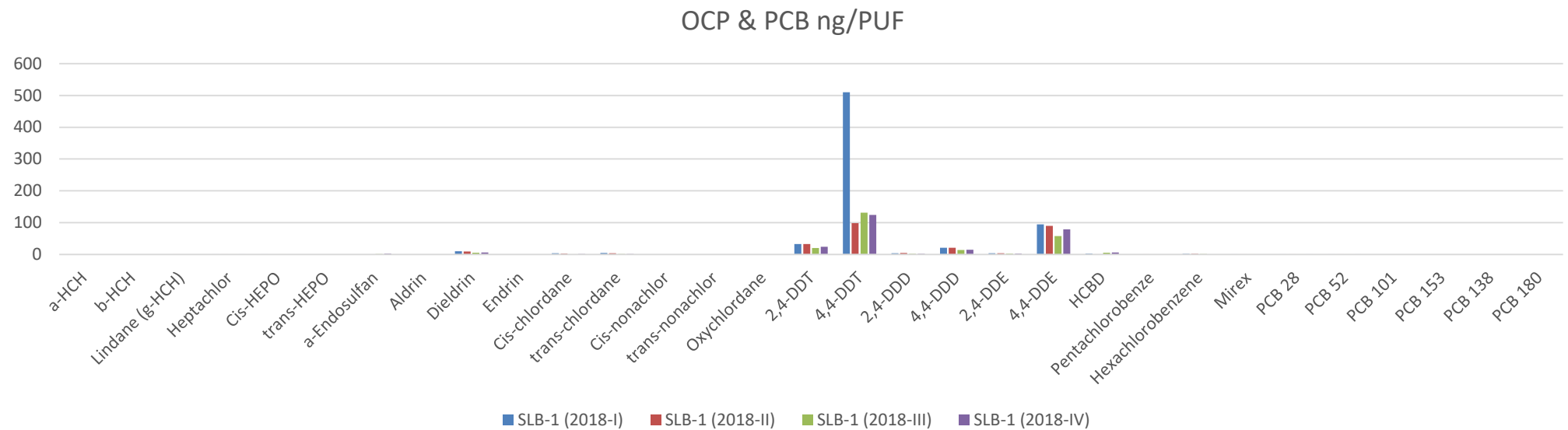
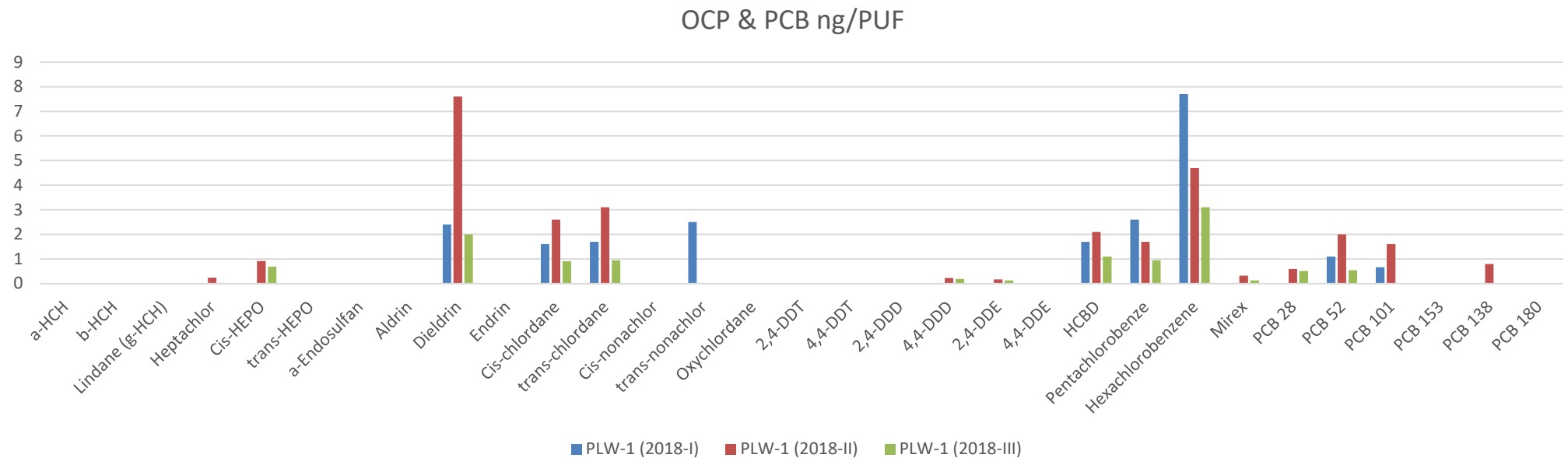
OCP & PCB ng/PUF



OCP & PCB ng/PUF

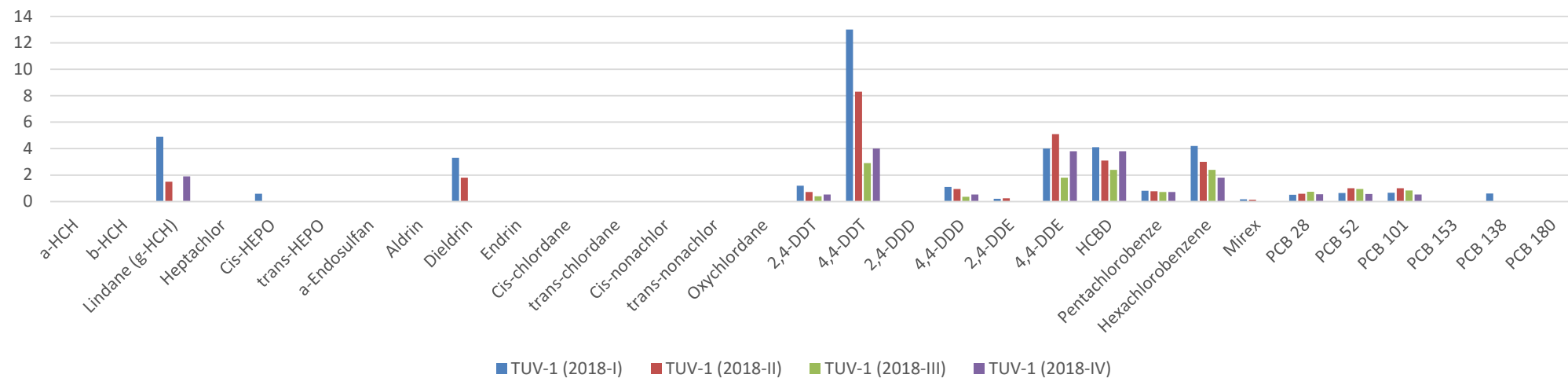


Palau and Solomon Island - PCB/OCP

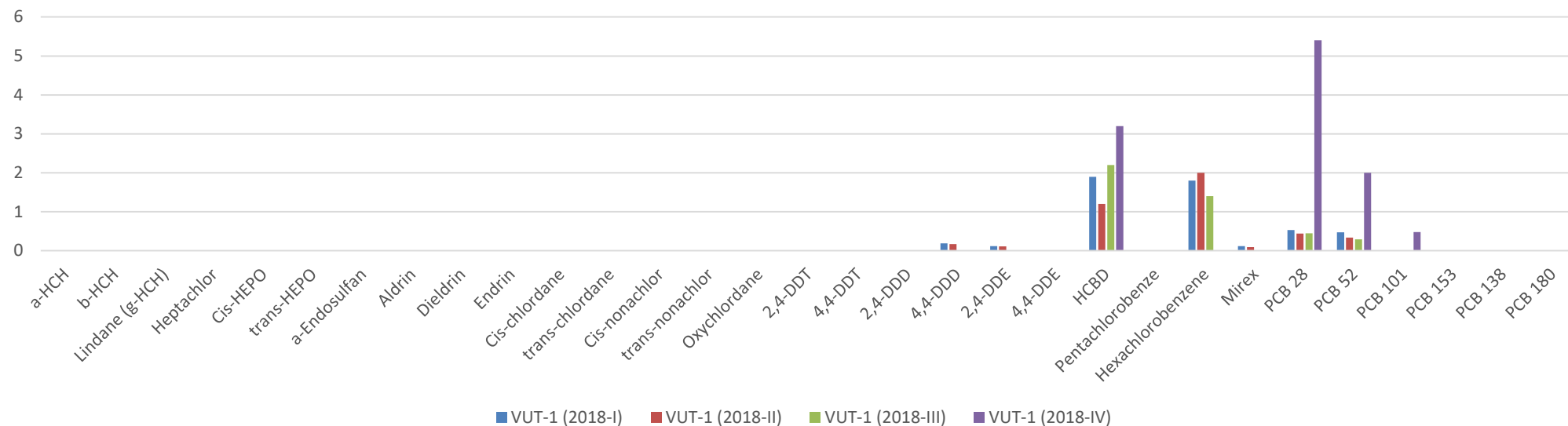


Tuvalu and Vanuatu – PCB/OCP

OCP & PCB ng/PUF

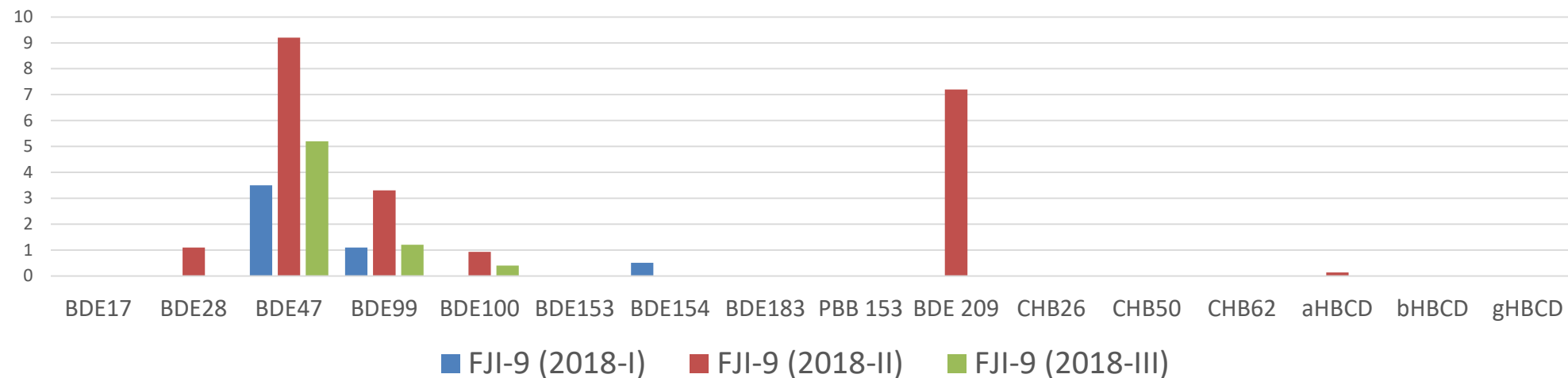


OCP & PCB ng/PUF

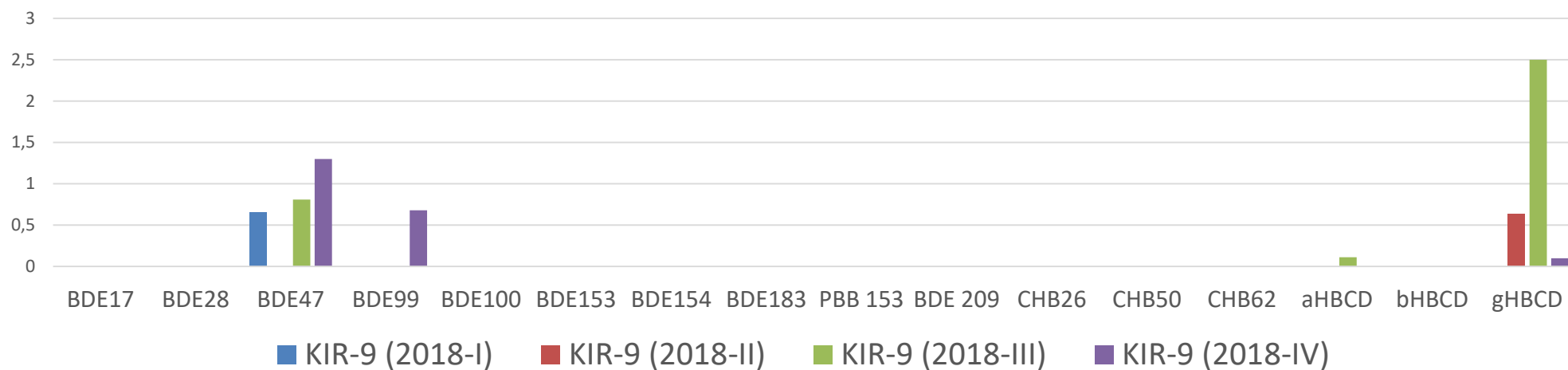


Fiji and Kiribati - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

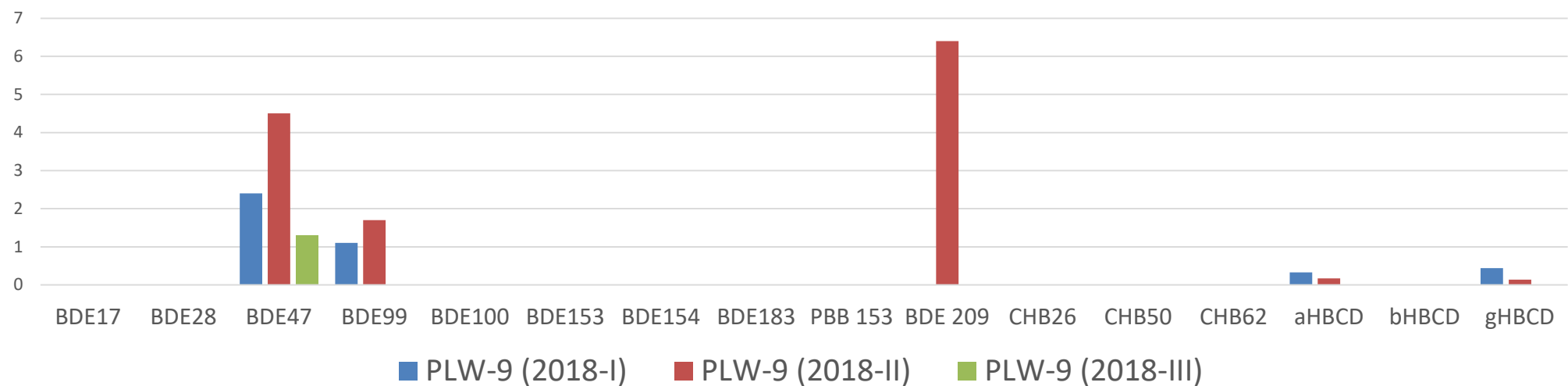


BFRs & toxaphene ng/PUF



Palau and Solomon Islands - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

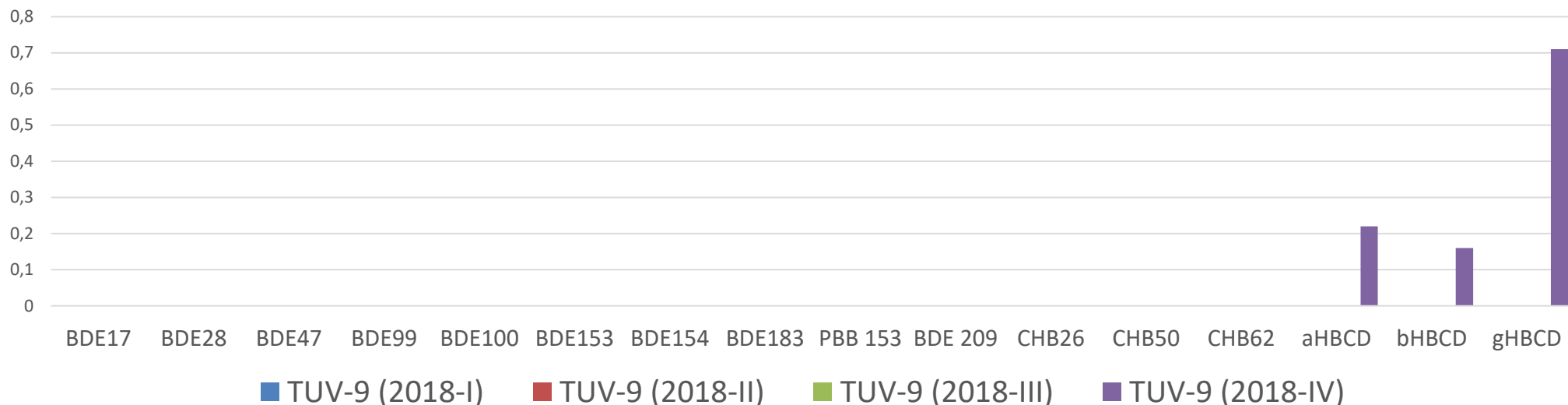


BFRs & toxaphene ng/PUF

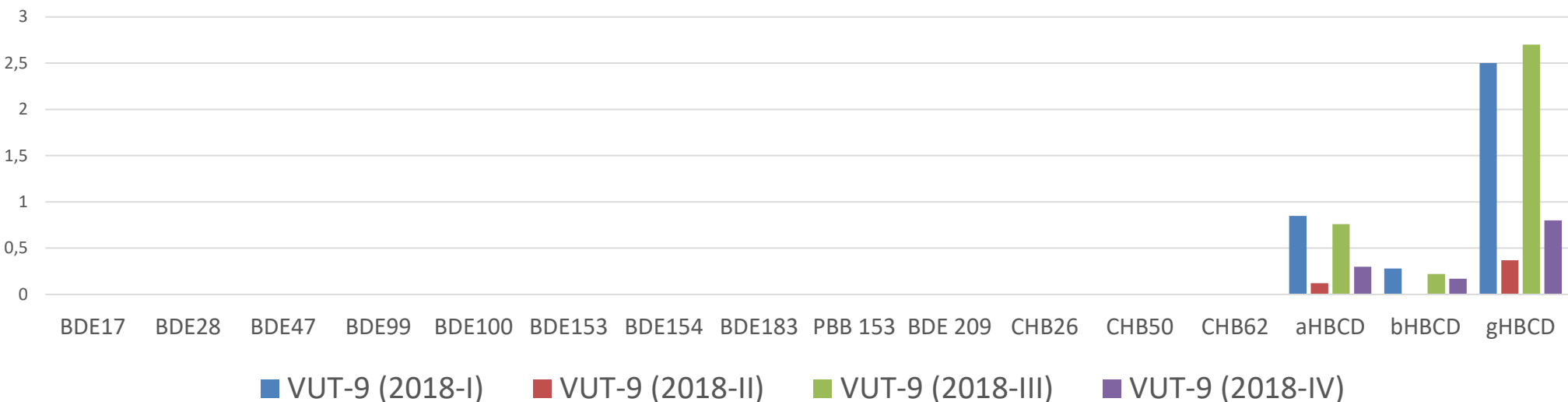


Tuvalu and Vanuatu - PBDE, HBCD, HBB, Toxaphene

BFRs & toxaphene ng/PUF

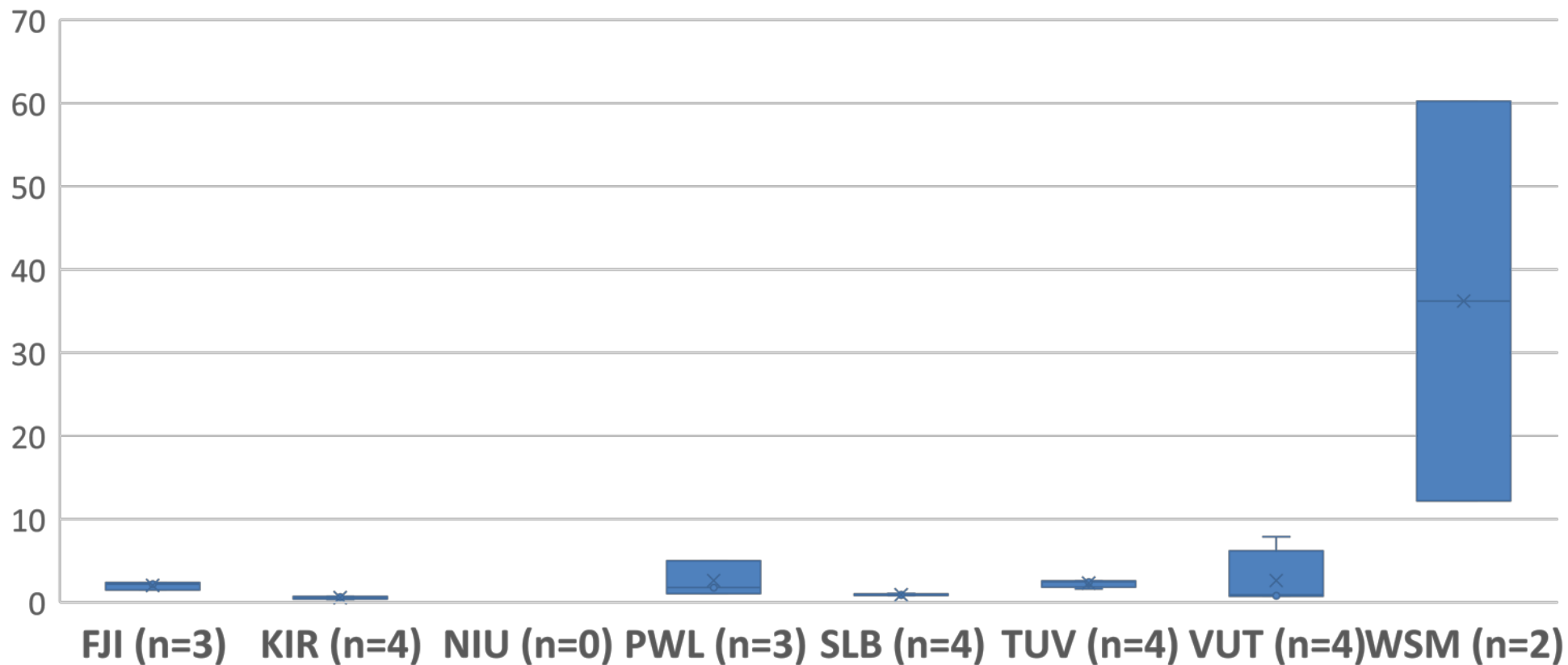


BFRs & toxaphene ng/PUF



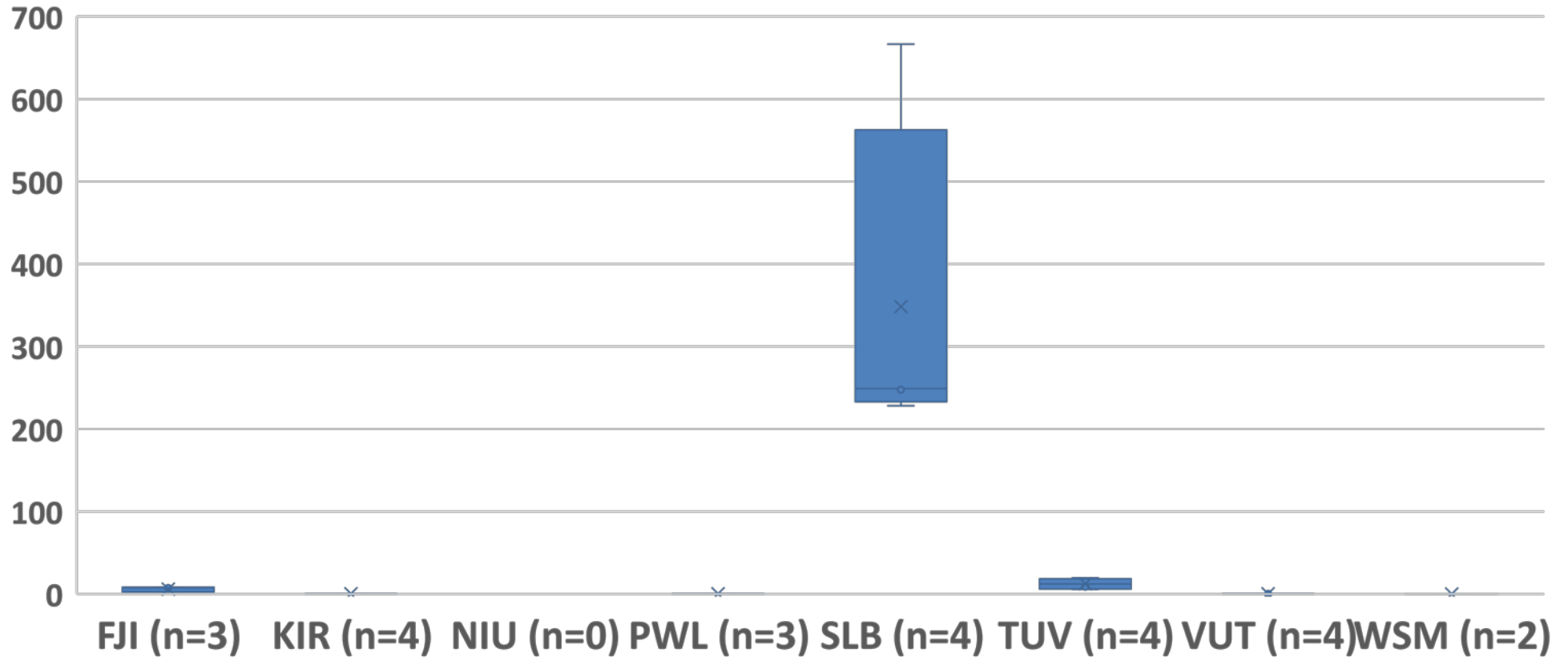
Pacific, 2018 – Sum PCBs

Sum 6 PCBs (ng/PUF)



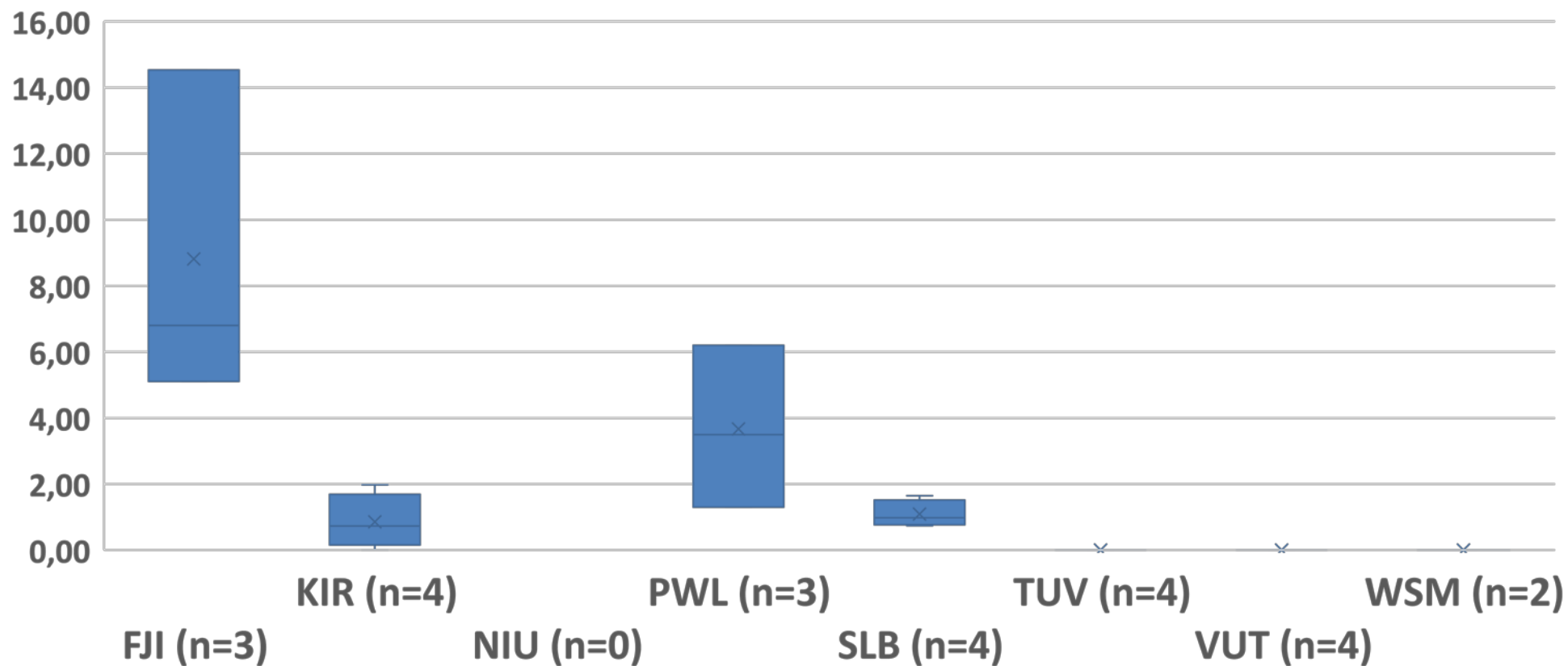
Pacific, 2018, sum DDT

Sum DDTs 2018 (ng/PUF)



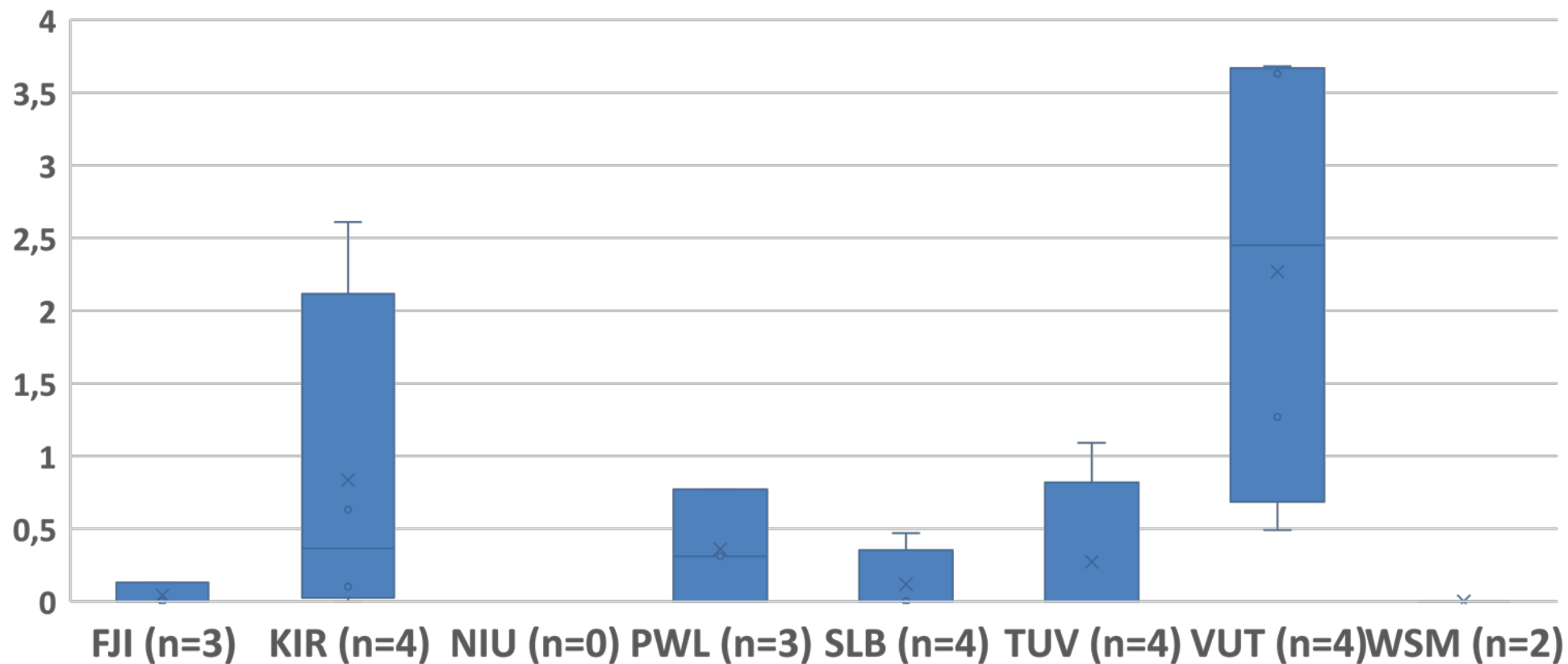
Pacific, 2018, sum PBDEs

Sum PBDEs 2018 (ng/PUF)



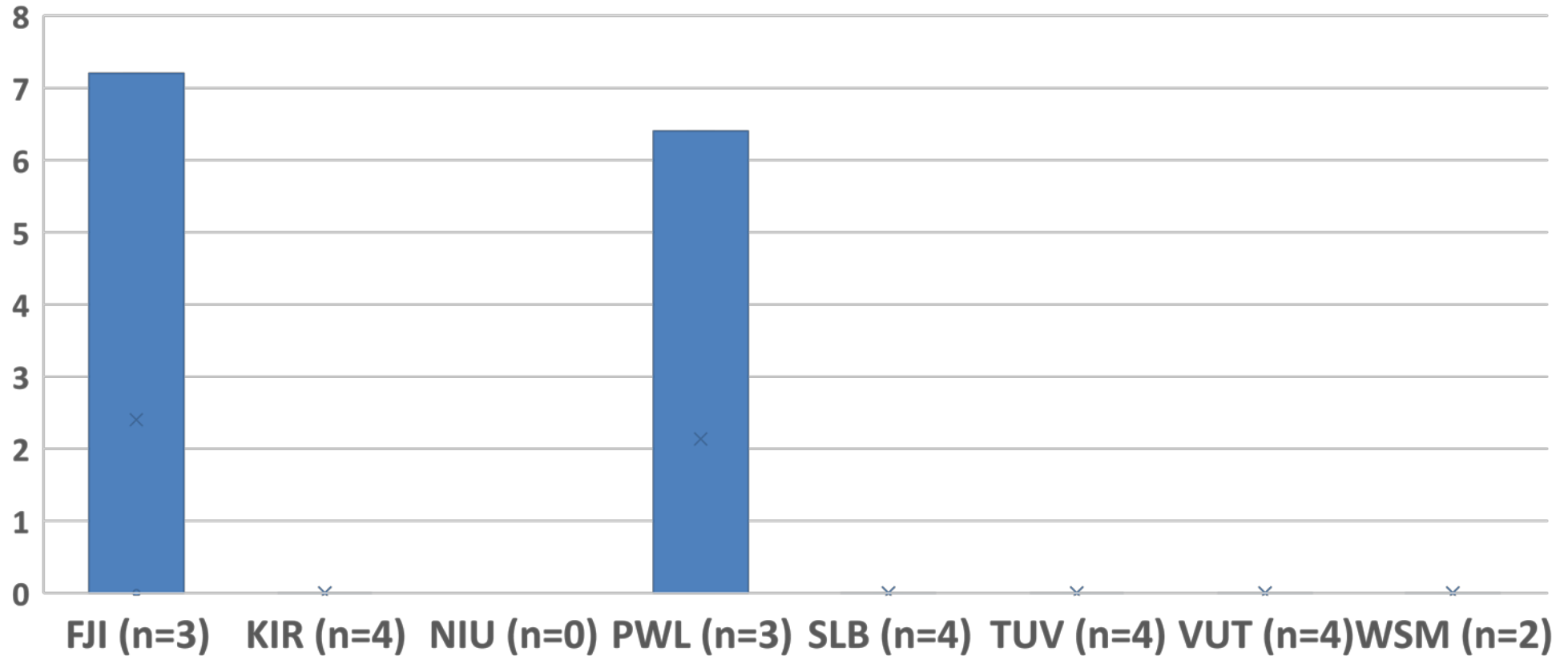
Pacific, 2018 - HBCD

Sum HBCDs 2018 (ng/PUF)



Pacific, 2019, decaBDE

DecaBDE 2018 (ng/PUF)



Serious contaminations, >> 10 ng/PUF

- Mongolia: PBDE, HBCD, HCB, PeCB
- Lao: Chlordane
- Congo: PCB, DDT, DDE, BDE209
- Egypt: HCB, PeCB, Endosulfan
- Ethiopia: Endosulfan, DDT, DDE
- Ghana: Endosulfan
- Kenya: Dieldrin
- Mali: DDE
- Tanzania: DDT, DDE, HCHs, HBCD
- Uganda: HBCD
- Zambia: BDE209, Dieldrin, DDT, DDE, HBCD
- **Solomon Islands: DDT**