Contamination of the Bay of Fundy - Gulf of Maine area with polychlorinated biphenyls, polychlorinated terphenyls, chlorinated dibenzodioxins, and dibenzofurans.

V. Zitko

Environment Canada, Fisheries Research Board, Biological Station, St. Andrews, New Brunswick,

O. Hutzinger

Atlantic Regional Laboratory, National Research Council of Canada, Halifax, Nova Scotia

and P.M.K. Choi

McMaster University, Hamilton, Ontario, Canada

Modified cleanup-chromatography of Holden and Marsden was used to determine PCB and polychlorinated terphenyls (PCT) in aquatic animals. GLC on 3% OV-210 on Chromosorb WAW 60/80 in a 6 ft x 4 mm glass column at 200°C was used to detect PCT. Chlorinated dibenzodioxins and dibenzofurans were determined after additional chromatography on alumina essentially according to Porter and Burke. All samples contained PCB in most cases closely resembling Aroclor 1254. Higher chlorinated biphenyls of the Aroclor 1260 variety were also present in some samples, particularly in eggs and tissues of aquatic birds. PCT were detected only in eggs and tissues of herring gulls in levels of 0.1 and 1.4 μg/g wet weight as Aroclor 5460, respectively. Chlorinated dioxins and

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dibenzofurans were not detectable (detection limit 0.01-0.04 μg/g wet weight, depending on the degree of chlorination) in any of the examined samples: muscle and liver of white shark, eggs of double-crested cormorants and herring gulls, commercial herring oil, and groundfish-herring fishmeal. The levels of PCB and chlorinated hydrocarbon pesticides are summarized below:

Species	Tissue	μg/g wet weight PCB (as Aroclor 1254)	p,p'-DDE	Other
Herring *Clupea harengus*	whole fish	0.34	0.06	
Mackerel *Scomber scombrus*	muscle	0.35	0.07	
Plaice *Hippoglossoides platessoides*	muscle	0.38	0.01	
White hake *Urophycis tenuis*	muscle	0.44	0.03	
Ocean perch *Sebastes marinus*	muscle	0.32	0.03	
Cod *Gadus morhua*	muscle	0.55	0.04	
Sea raven *Hemitripterus americanus*	muscle	0.21	0.08	
	viscera	0.73	0.30	DDT 0.24
Basking shark *Cetorhinus maximus*	muscle	0.07	-	
	liver	1.07		
White shark *Carcharodon carcharias*	muscle	0.77	0.48	
	liver	218	335	DDT 63 DDD 43
Bluefin tuna *Thunnus thynnus*	muscle	1.54	0.15	
Herring oil		3.55	2.27	DDT 0.37
Fishmeal		0.54	0.19	

DSW 028074

STLCOPCB4012036

Species	Tissue	PCB (as Aroclor 1254)	µg/g wet weight p,p'-DDE
Double-crested cormorant *Phalacrocorax auritus*	eggs	43.5*	29.4*
		17.2*	8.6*
	muscle	3.38	8.40
	liver	2.13	4.16
	Subcut. fat	38	164
	Abdom. fat	52	162
Herring gull *Larus argentatus*	eggs	12.6*	5.67*
		5.54*	2.83*
	muscle	5.06	2.07
	liver	6.50	2.08
	Subcut. fat	75	26

*Different nesting colonies

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