Table S1. Observed significant correlations ($p < 0.05$) between metal concentrations in water and their accumulation in tissues of common carp (*Cyprinus carpio*), silver carp (*Hypothalmic molitrix*), and tilapia (*Oreochromis niloticus*) for study seasons and regions

		Zn			**Cu**			**Cd**			**Pb**		
		G	L	K	G	L	K	G	L	K	G	L	K
Common carp	Autumn	-	-	-	-	-	-	-	-	-	-	-	-
	Winter	-	-	-	-	-	-	-		-	-	-	-
	Spring	-	-	+	-	-	+	-	-	-	-	-	-
	Summer	-	-	-	-	-	-	-	-	-	+	+	-
Silver carp	Autumn	-	-	-	-	-	-	-	-	-	-	-	-
	Winter	-	-	-	-	+	-	-	-	-	-	-	-
	Spring	-	-	-	-	-	-	-	-	-	-	-	-
	Summer	-	-	-	-	-	-	-	-	-	-	-	-
Tilapia	Autumn	-	-	+	+	-	-	-	-	-	-	+	-
	Winter	-	-	-	-	-	-	-	-	-	+	-	-
	Spring	-	-	-	-	-	-	-	-	-	-	-	-
	Summer	-	-	-	-	-	+	-	-	-	-	-	-
Common carp	Ha Noi	-	-	-	-	-	-	+	-	-	-	-	+
	Ha Nam	-	-	-	-	-	-	-	-	+	-	-	+
	Ninh Binh	-	-	-	-	-	-	+	+	-	-	-	-
	Nam Dinh	-	-	-	-	-	+	+	-	-	+	-	-
Silver carp	Ha Noi	-	-	-	-	-	-	-	-	-	-	-	-
	Ha Nam	-	-	-	-	-	-	+	-	-	-	+	-
	Ninh Binh	-	-	-	-	-	-	-	-	-	-	-	-
	Nam Dinh	-	-	-	-	-	-	-	-	-	-	-	-
Tilapia	Ha Noi	-	-	-	-	-	-	-	-	-	-	-	-
	Ha Nam	-	-	+	-	-	-	-	-	-	-	+	+
	Ninh Binh	-	-	-	-	-	-	+	-	-	-	-	-
	Nam Dinh	-	-	-	-	-	-	+	-	-	-	-	-

Notes: G: gills; L: livers; K: kidneys; Correlation (+); no correlation (-)

Table S2. Annual metals variation in the gills, livers, and kidneys of common carp (*Cyprinus carpio*), silver carp (*Hypothalmic molitrix*), and tilapia (*Oreochromis niloticus*) collected from different sites. The data is presented as mean ± SEM. Small letters (a > b) represent statistically significant differences between sampling years within the same tissue samples from the same species. The capital letters (A > B > C) represent statistically significant differences between tissues of each species within each year.

	C. carpio		***H. molitrix***		***O. niloticus***	
	The year 2013	The year 2014	The year 2013	The year 2014	The year 2013	The year 2014
	Zn concentration (mg kg^{-1} wet weight)					
Gills	190 ± 25^{aAB}	180 ± 25^{aA}	28 ± 5.1^{aB}	24 ± 4.2^{aB}	30 ± 3.1^{aB}	29 ± 3.0^{aB}
Liver	118 ± 25^{abB}	97 ± 15^{aB}	47 ± 7.3^{aA}	42 ± 5.9^{aA}	35 ± 3.1^{aB}	35 ± 6.1^{aB}
Kidneys	227 ± 42^{aA}	207 ± 34^{aA}	37 ± 6.2^{aAB}	38 ± 9.1^{aAB}	62 ± 10^{aA}	65 ± 12^{aA}
	Cu concentration (mg kg^{-1} wet weight)					
Gills	1.9 ± 0.17^{aC}	2.2 ± 0.4^{aC}	2.2 ± 0.38^{aC}	1.5 ± 0.3^{aC}	2.2 ± 0.15^{aC}	2.4 ± 0.3^{aC}
Liver	17 ± 4.1^{aA}	16 ± 3.0^{aA}	27 ± 8.7^{aA}	19 ± 4.0^{aA}	121 ± 10^{aA}	106 ± 20^{aA}
Kidneys	6.2 ± 0.9^{aB}	6.0 ± 1.0^{aB}	4.3 ± 0.51^{aB}	3.5 ± 0.61^{aB}	6.9 ± 1.0^{aB}	10 ± 2.5^{aB}
	Pb concentration (mg kg^{-1} wet weight)					
Gills	0.57 ± 0.084^{aAB}	0.52 ± 0.08^{aAB}	0.61 ± 0.15^{aA}	0.52 ± 0.13^{aA}	0.58 ± 0.061^{aB}	0.57 ± 0.07^{aB}
Liver	0.40 ± 0.049^{aB}	0.46 ± 0.10^{aB}	0.73 ± 0.15^{bA}	0.38 ± 0.08^{aA}	0.86 ± 0.14^{aAB}	0.76 ± 0.13^{aAB}
Kidneys	0.86 ± 0.16^{aA}	0.77 ± 0.18^{aA}	0.85 ± 0.31^{aA}	0.68 ± 0.13^{aA}	1.0 ± 0.18^{aA}	1.13 ± 0.22^{aA}
	Cd concentration (μg kg^{-1} wet weight)					
Gills	25 ± 3.5^{aC}	21 ± 7.0^{aC}	19 ± 4.0^{aC}	15 ± 6.0^{aC}	22 ± 2.4^{aC}	28 ± 11^{aC}
Liver	62 ± 15^{aB}	61 ± 12^{aB}	54 ± 23^{aB}	39 ± 12^{aB}	182 ± 34^{aB}	174 ± 33^{aB}
Kidneys	228 ± 43^{aA}	242 ± 64^{aA}	174 ± 49^{aA}	153 ± 32^{aA}	284 ± 25^{aA}	296 ± 59^{bA}