Supplementary Materials for the mansucript

Trace metal partitioning in the salinity gradient of the highly stratified estuary: A case study in the Krka River estuary (Croatia)

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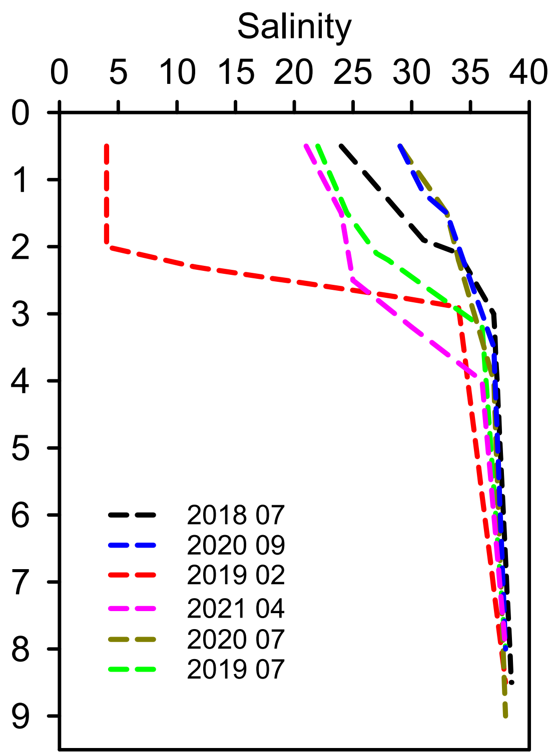

Figure S1. Vertical salinity profiles during the time of the samplings as indicated in the legend.

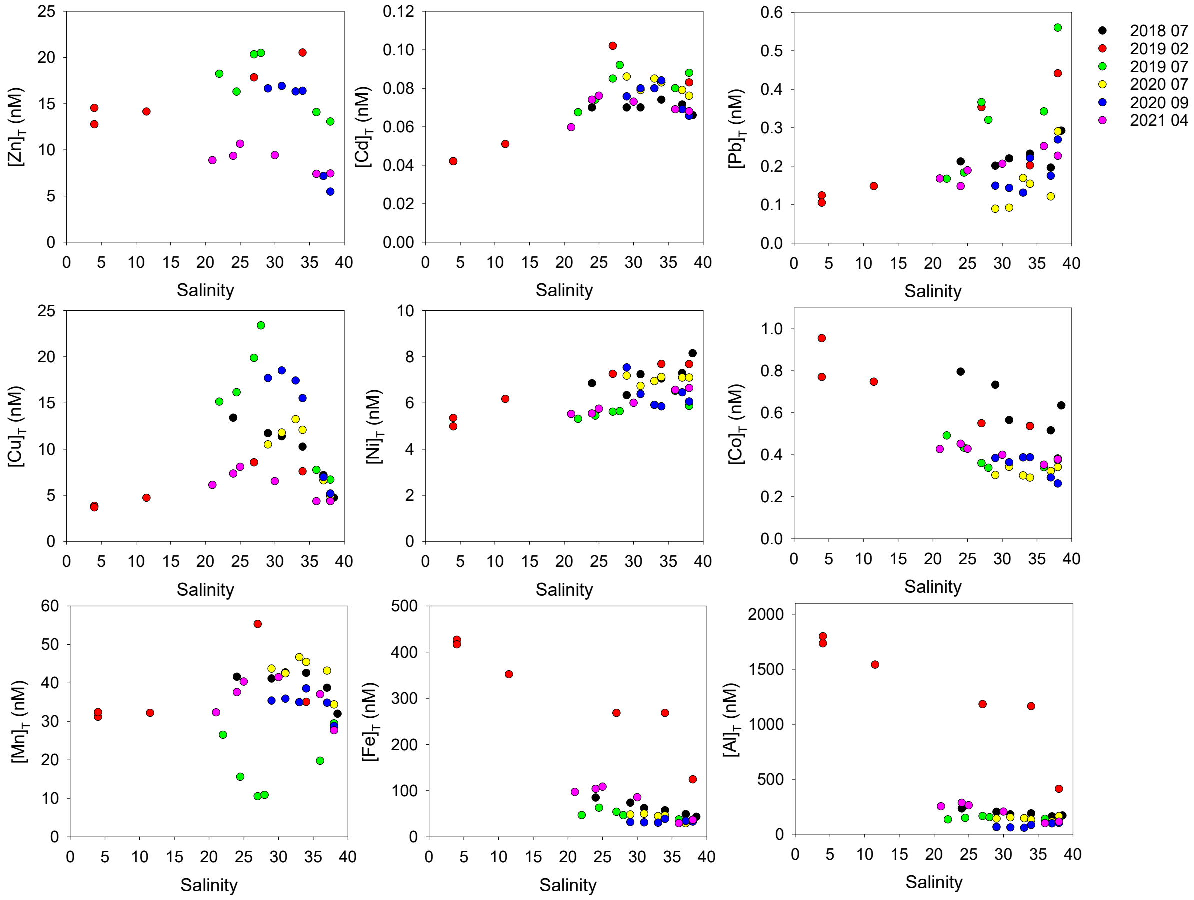

Figure S2. Concentrations of studied trace metals in the total fraction (unfiltered sample) in relation to salinity.

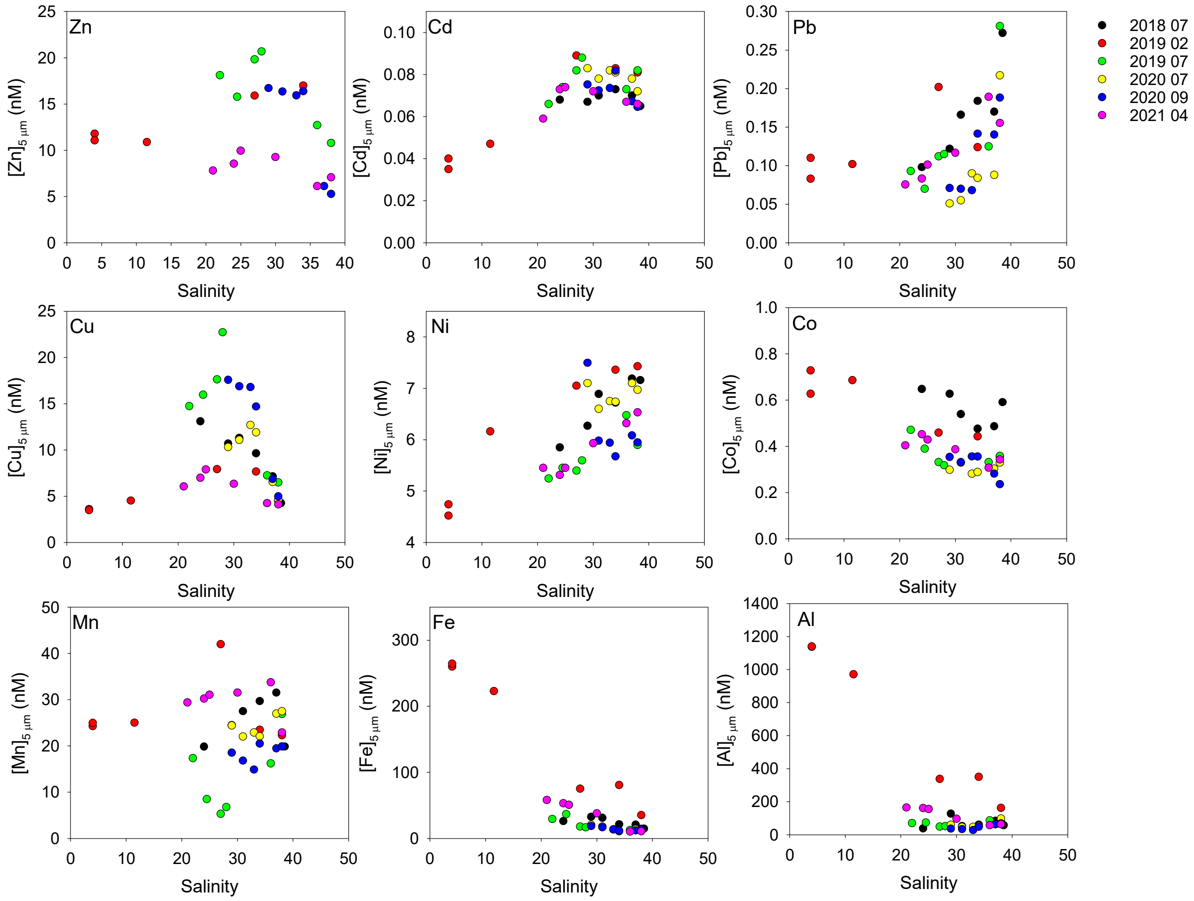

Figure S3. Concentrations of studied trace metals in < 5 µM fraction in relation to salinity.

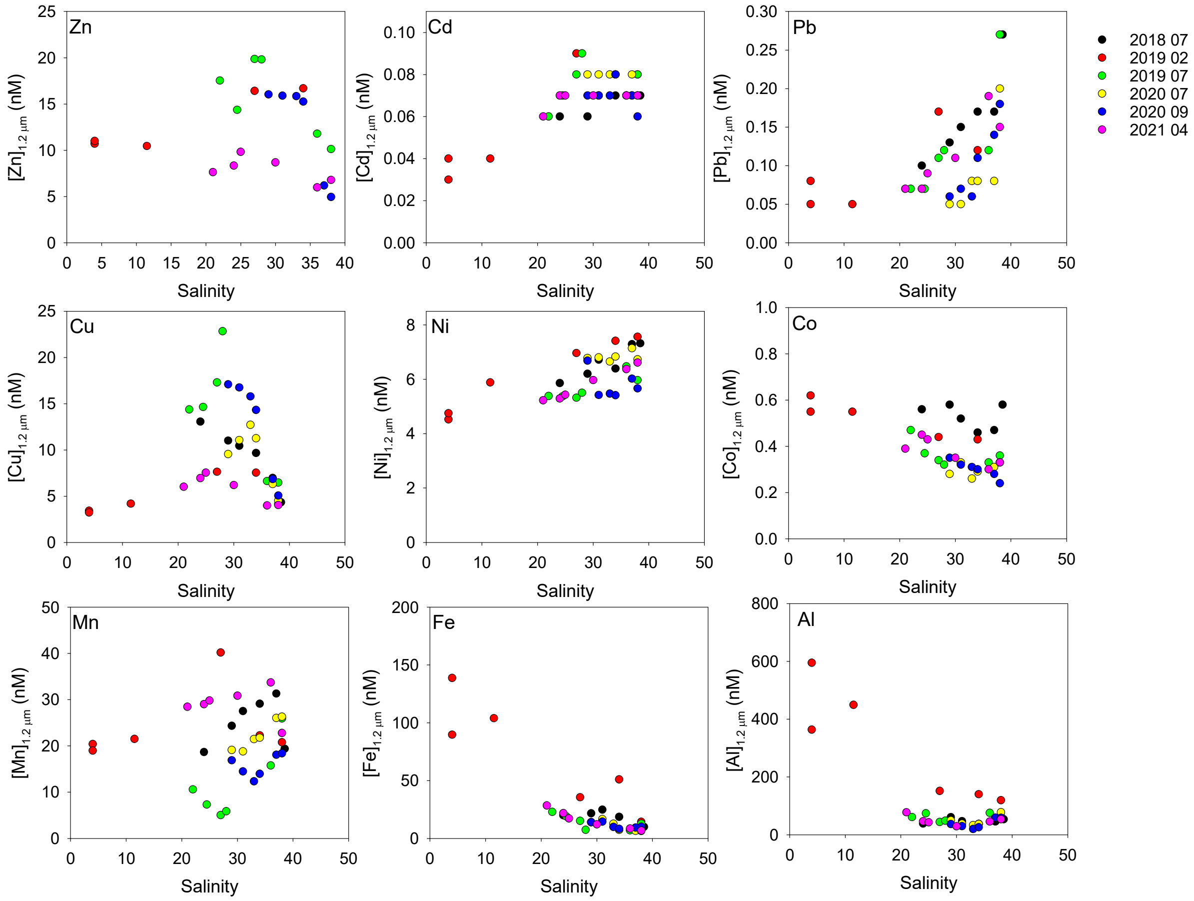

Figure S4. Concentrations of studied trace metals in < 1.2 µM fraction in relation to salinity.

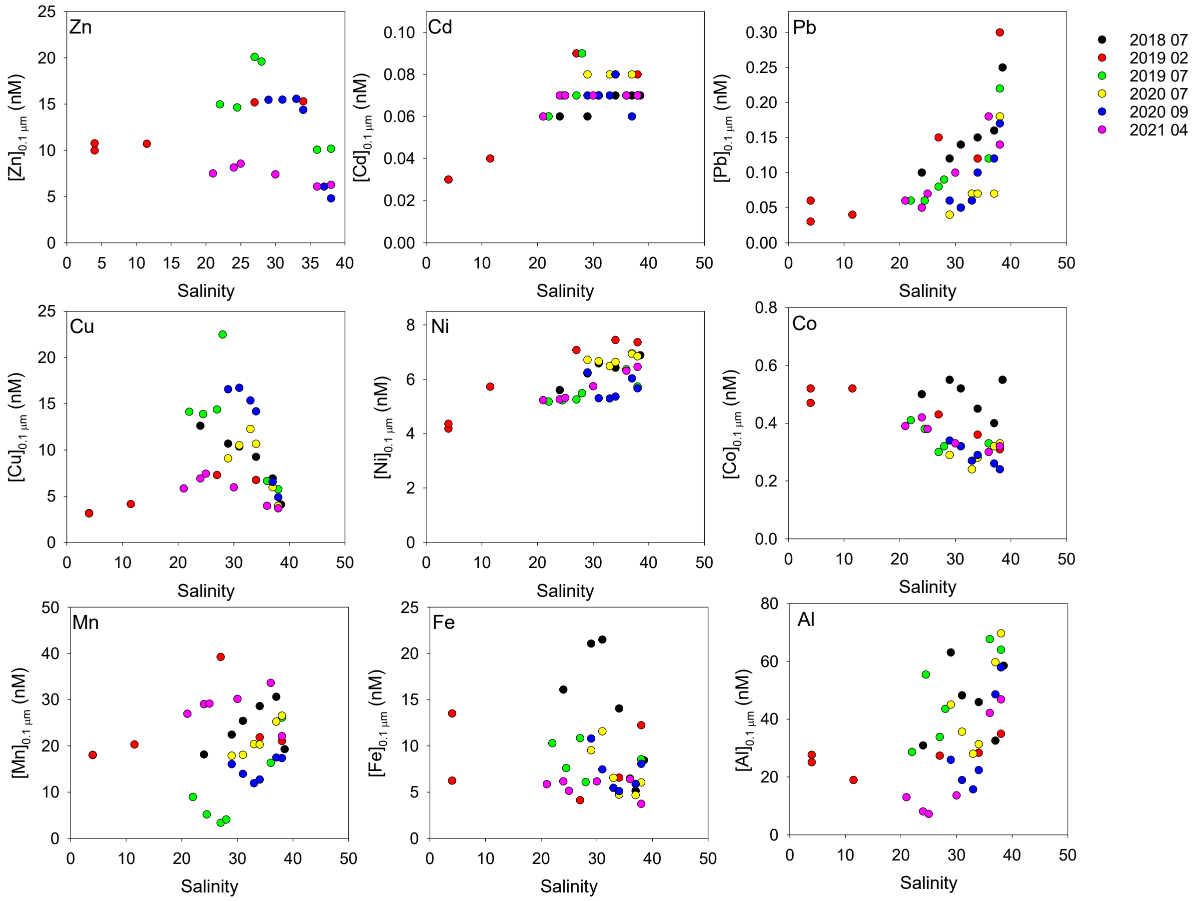

Figure S5. Concentrations of studied trace metals in < 0.1 µM fraction in relation to salinity.

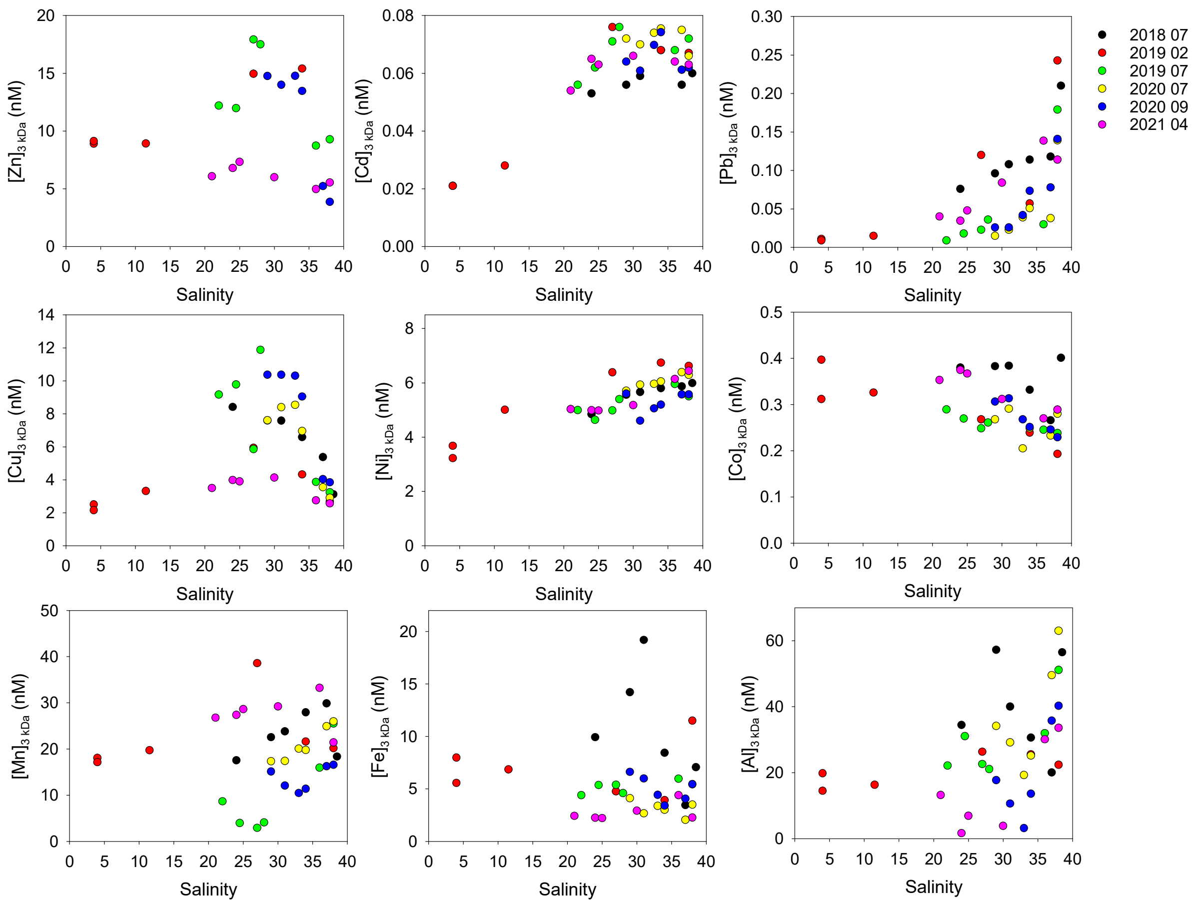

Figure S6. Concentrations of studied trace metals in truly dissolved fraction (< 3 kDa) in relation to salinity.

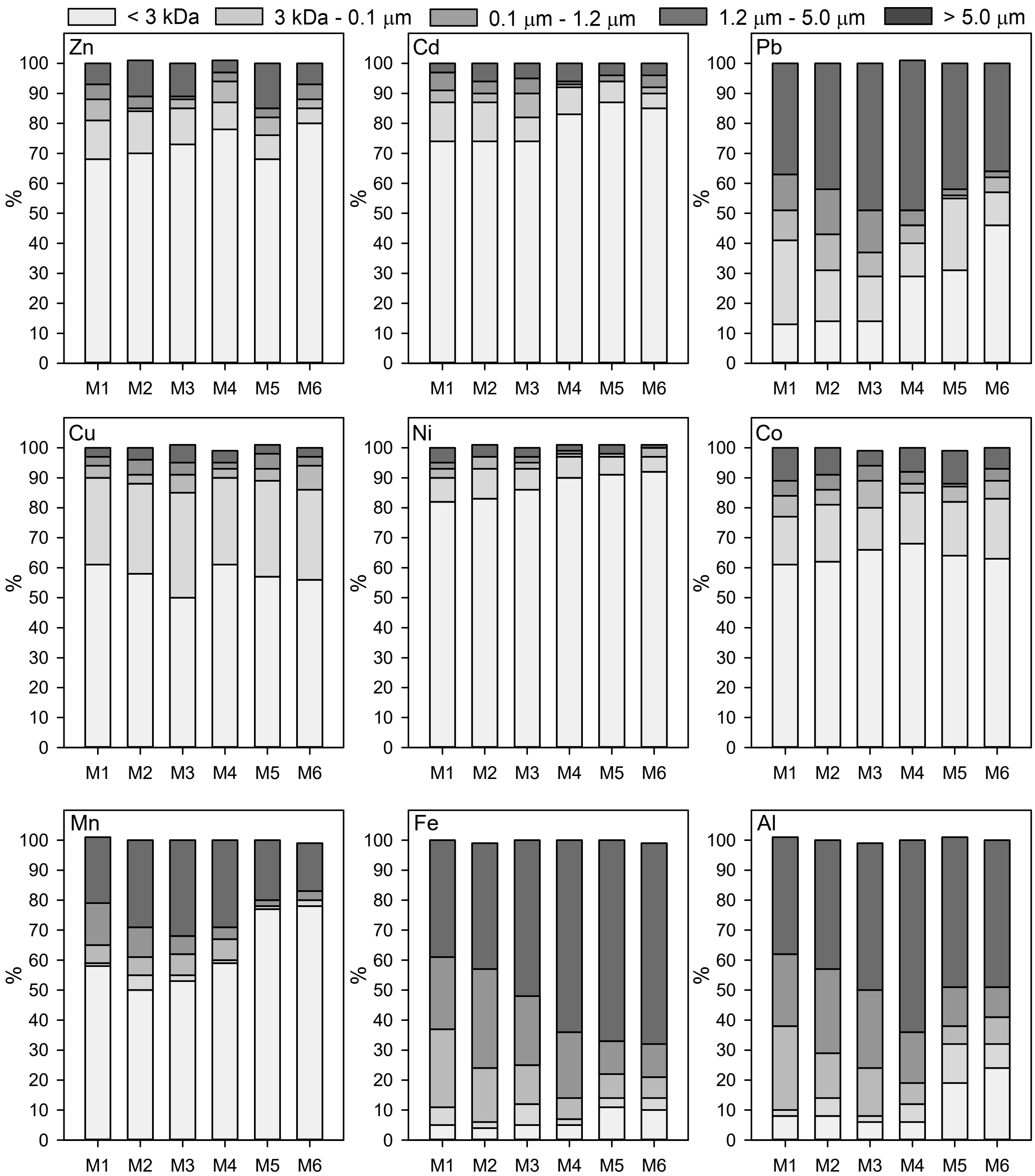

Figure S7. Average percentages of studied trace metals (samplings with FWL characterised by salinity < 25) in each size fraction (as indicated in the figure) at each depth (M1 – M6).

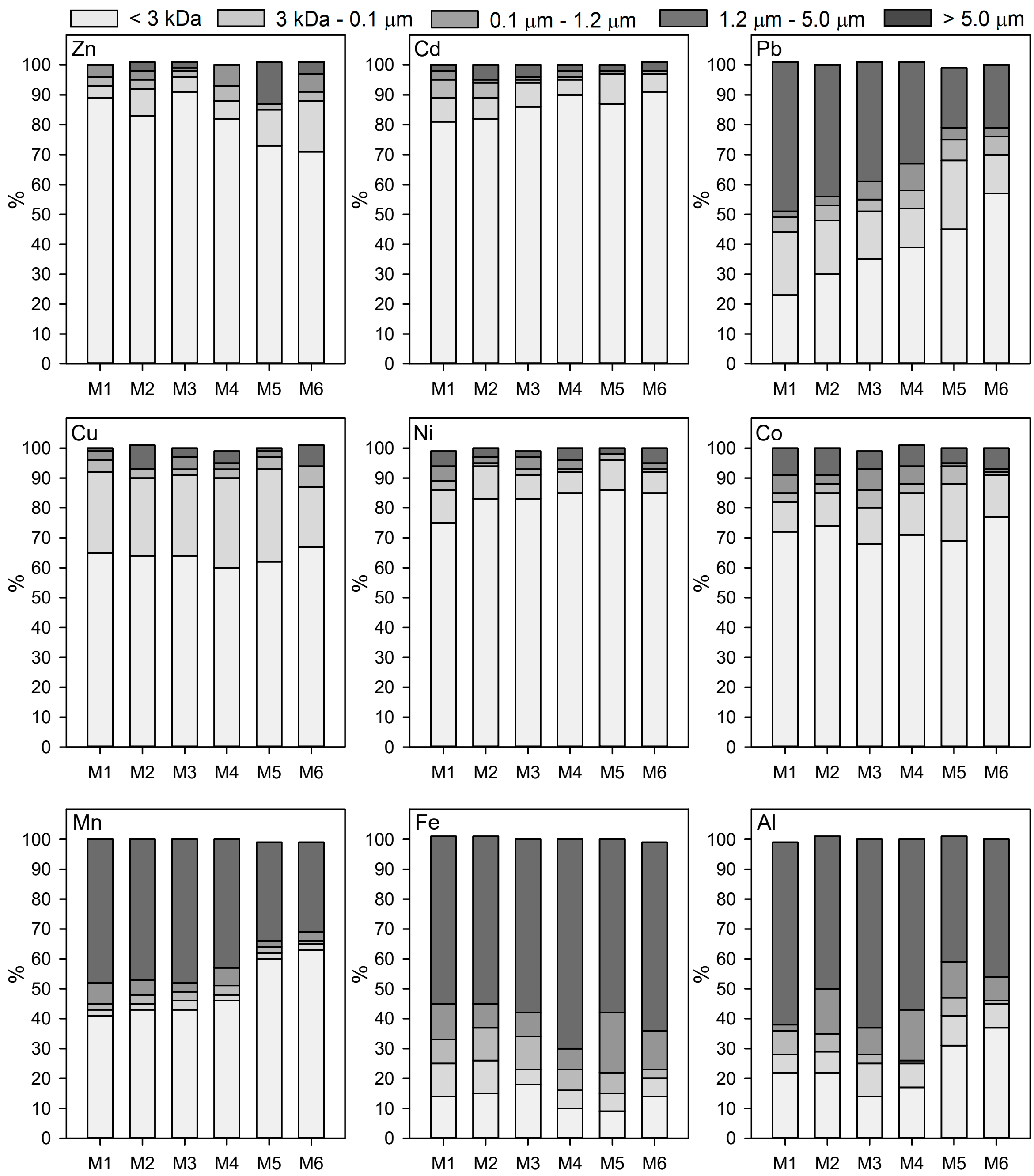

Figure S8. Average percentages of studied trace metals (samplings with FWL characterised by salinity > 25) in each size fraction (as indicated in the figure) at each depth (M1 – M6).

Table S1. Percentage of colloidal metal fraction in the dissolved phase - comparison betweeen various coastal areas.

Trace metal	Colloidal size	Colloid%	Study area	Reference
Pb	**3 kDa – 0.1 µm**	**37%**	**Krka River estuary**	**This study**
	1 kDa – 0.2 µm	Up to 42%	Guandang River estuary	(Lu et al., 2020)
	1 kDa – 0.2 µm	31%	Coast of North Yellow Sea	(Lu et al., 2019)
	1 kDa – 0.2 µm	< 14%	Xin'an River estuary	(Lu et al., 2020)
	5 kDa – 0.2 µm	94%	Penzé estuary	(Waeles et al., 2008)
	10 kDa – 0.4 µm	94%	Galveston Bay	(Benoit et al., 1994)
Fe	**3 kDa – 0.1 µm**	**37%**	**Krka River estuary**	**This study**
	100 kDa – 0.4 µm	87%	Venice Lagoon	(Martin et al., 1995)
	5 kDa – 0.2 µm	7.6%	Gulf of Trieste	(Klun et al., 2019)
	10 kDa – 0.2 µm	84%	San Francisco Bay – low salinty region	(Sañudo-Wilhelmy et al., 1996)
	10 kDa – 0.2 µm	40%	San Francisco Bay – high salinty region	(Sañudo-Wilhelmy et al., 1996)
Al	**3 kDa – 0.1 µm**	**31%**	**Krka River estuary**	**This study**
	5 kDa – 0.2 µm	1.5%	Gulf of Trieste	(Klun et al., 2019)
	10 kDa – 0.2 µm	84%	San Francisco Bay – low-salinty region	(Sañudo-Wilhelmy et al., 1996)
	10 kDa – 0.2 µm	< 10%	San Francisco Bay – high-salinty region	(Sañudo-Wilhelmy et al., 1996)
Mn	**3 kDa – 0.1 µm**	**4%**	**Krka River estuary**	**This study**
	10 kDa – 0.2 µm	< 20%	San Francisco Bay	(Sañudo-Wilhelmy et al., 1996)
	5 kDa – 0.2 µm	7%	Gulf of Trieste	(Klun et al., 2019)
Cu	**3 kDa – 0.1 µm**	**32%**	**Krka River estuary**	**This study**
	5 kDa – 0.2 µm	20%	Gulf of Trieste	(Klun et al., 2019)
	20 nm – 0.45 µm	~30%	Loire estuary	(Dulaquais et al., 2020)
	1 kDa – 0.2 µm	< 23%	Xin'an River estuary	(Lu et al., 2020)
	1 kDa – 0.2 µm	< 24%	Guandang River estuary	(Lu et al., 2020)
	1 kDa – 0.2 µm	< 51%	Coast of North Yellow Sea	(Lu et al., 2019)
	10 kDa – 0.2 µm	< 20%	San Francisco Bay	(Sañudo-Wilhelmy et al., 1996)
	5 kDa – 0.2 µm	94%	Penzé estuary	(Waeles et al., 2008)
	300 kDa – 0.4 µm	~70%	Ob estuary	(Dai and Martin, 1995)
	> 0.4 nm – 0.45 µm	60%	Fal estuary	(Braungardt et al., 2011)
Co	**3 kDa – 0.1 µm**	**18%**	**Krka River estuary**	**This study**
	1 kDa – 0.45 µm	19%	Galveston Bay	(Wen et al., 1999)
	0.015 – 0.2 µm	Up to 86%	Amazon and Pará River estuaries – low-salinty region	(de Carvalho et al., 2021)
	0.015 – 0.2 µm	Down to 16%	Amazon and Pará River estuaries – high-salinty region	(de Carvalho et al., 2021)
Zn	**3 kDa – 0.1 µm**	**9%**	**Krka River estuary**	**This study**
	5 kDa – 0.2 µm	1%	Gulf of Trieste	(Klun et al., 2019)
	10 kDa – 0.2 µm	< 3%	San Francisco Bay	(Sañudo-Wilhelmy et al., 1996)
	1 kDa – 0.45 um	91%	Galveston Bay	(Wen et al., 1999)
Cd	**3 kDa – 0.1 µm**	**9%**	**Krka River estuary**	**This study**
	5 kDa – 0.2 µm	1%	Gulf of Trieste	(Klun et al., 2019)
	10 kDa – 0.2 µm	< 1%	San Francisco Bay	(Sañudo-Wilhelmy et al., 1996)
	1 kDa – 0.2 µm	Up to 17%	Guangdang River estuary	(Lu et al., 2020)
	1 kDa – 0.2 µm	Up to 20%	Xin'an River estuary	(Lu et al., 2020)
	100 kDa – 0.4 µm	34%	Venice Lagoon	(Martin et al., 1995)
	> 0.4 nm – 0.45 µm	37%	Fal estuary	(Braungardt et al., 2011)
	1 kDa – 0.2 µm	Up to 51%	Coast of North Yellow Sea	(Lu et al., 2019)
	1 kDa – 0.45 µm	44%	Galveston Bay	(Wen et al., 1999)
	5 kDa – 0.2 µm	82%	Penzé estuary	(Waeles et al., 2008)
Ni	**3 kDa – 0.1 µm**	**12%**	**Krka River estuary**	**This study**
	5 kDa – 0.2 µm	4%	Gulf of Trieste	(Klun et al., 2019)
	10 kDa – 0.2 µm	< 2%	San Francisco Bay	(Sañudo-Wilhelmy et al., 1996)
	1 kDa – 0.45 um	36%	Galveston Bay	(Wen et al., 1999)
	0.015 – 0.2 µm	Up to 38%	Amazon and Pará River estuaries – low-salinty region	(de Carvalho et al., 2021)
	0.015 – 0.2 µm	-	Amazon and Pará River estuaries – high-salinty region	(de Carvalho et al., 2021)

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