**Illustration:** Immersion systems for the deployment of time-integrated tools at experimental sites upstream and downstream from the discharge of pumping/dilution in the channel of Alsace.

mg/Kg$_{dw}$	Cd	Hg	As	Cr	Cu	Ni	Pb	Zn
max	*1.7*	*3.3*	*21.1*	*76.6*	*124.0*	*48.3*	*74.7*	*283.0*
min	*0.2*	*0.2*	*7.6*	*45.4*	*25.8*	*24.4*	*18.3*	*74.5*
Mean	**0.8**	**0.5**	**14.9**	**56.1**	**45.0**	**36.8**	**29.3**	**119.6**

Table S2. Total numbers of living mussels in cages after their transplantation at upstream and downstream sites for each of sampling dates during the three deployments. The grey cases correspond to the reference mussels freshly collected in their natural medium.

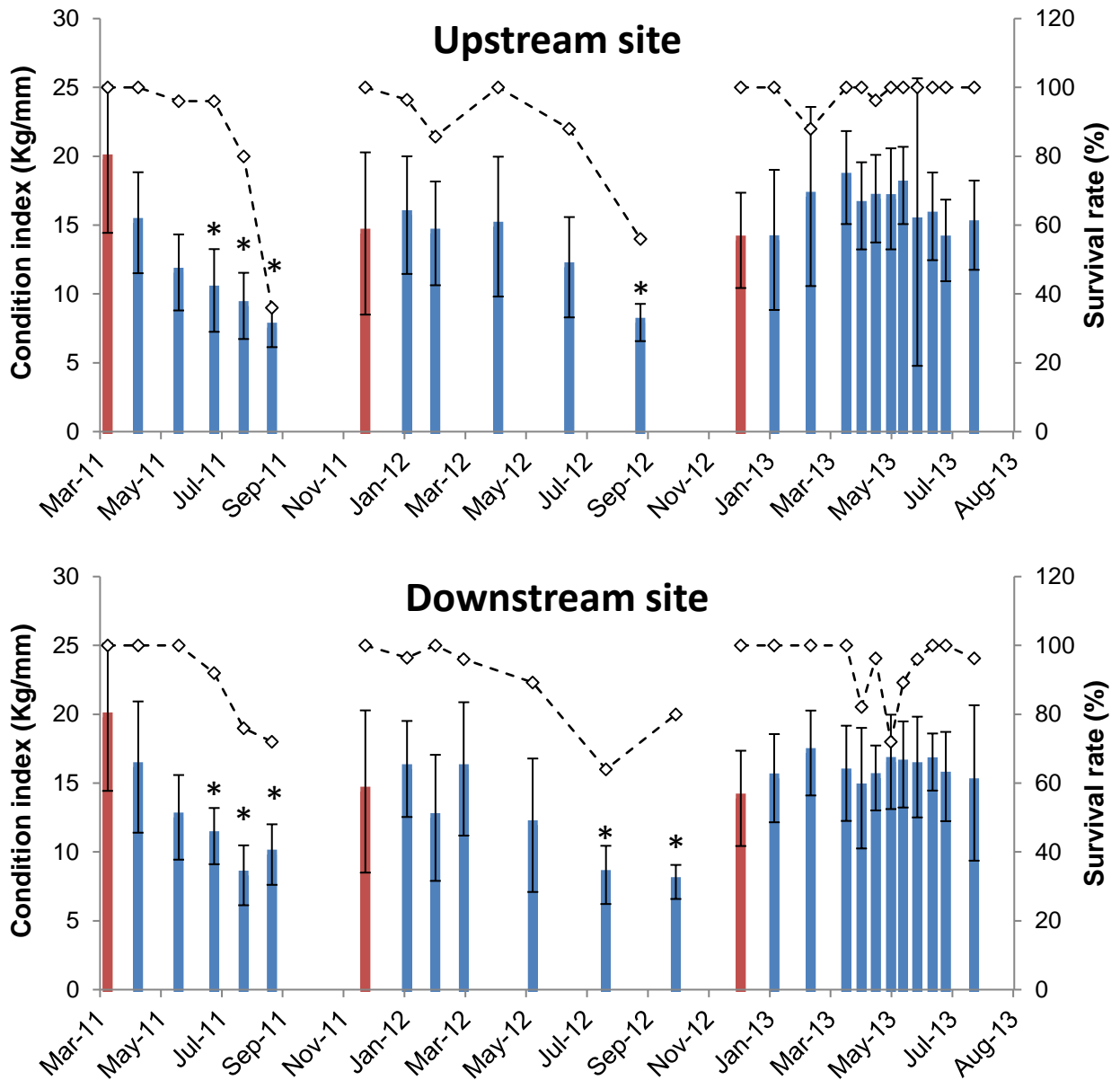| Sampling date	Upstream site		Downstream site	
	Total living	Total caged	Total living	Total caged
22-Mar-11	25	25	25	25
21-Apr-11	25	25	25	25
31-May-11	24	25	25	25
05-Jul-11	24	25	23	25
03-Aug-11	20	25	19	25
31-Aug-11	9	25	18	25
01-Dec-11	30	30	30	30
11-Jan-12	27	28	27	28
08-Feb-12	24	28	28	28
07-Mar-12			24	25
10-Apr-12	26	26		
14-May-12			25	28
19-Jun-12	22	25		
25-Jul-12			16	25
28-Aug-12	14	25		
02-Oct-12			20	25
05-Dec-12	30	30	30	30
07-Jan-13	28	28	28	28
12-Feb-13	22	25	28	28
19-Mar-13	25	25	26	26
03-Apr-13	28	28	23	28
17-Apr-13	26	27	26	27
02-May-13	27	27	18	25
14-May-13	28	28	25	28
28-May-13	26	26	24	25
12-Jun-13	28	28	28	28
25-Jun-13	25	25	28	28

23-Jul-13   27   27   26   27
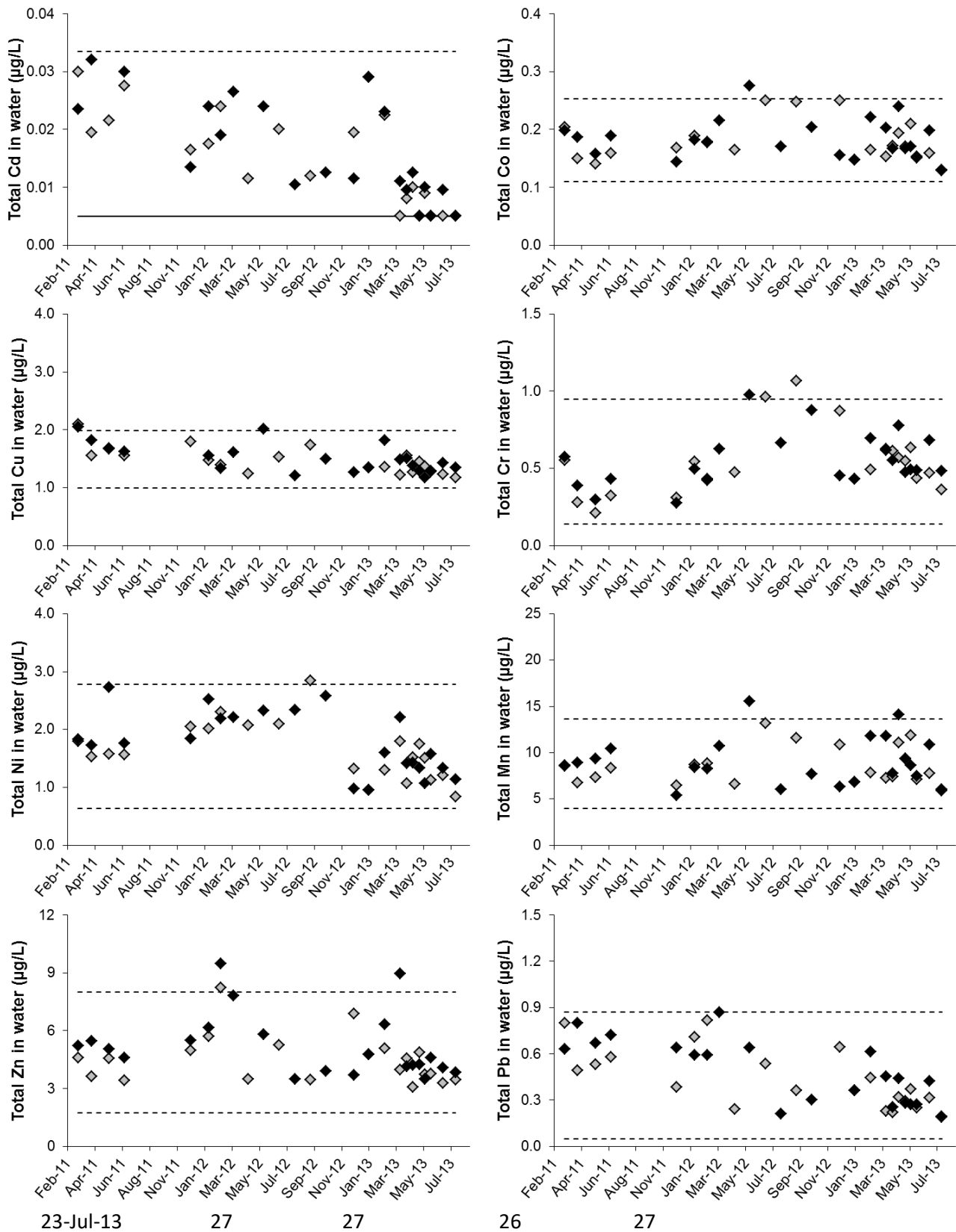
Figure S1. Total metal concentrations in the Rhine water at the upstream (♦) and downstream (♦) sites of mussel transplantation during the long-term monitoring (March 2011- July 2013). The dotted lines are 95% prediction intervals (n = 45, data for both confounded sites). For Cd, the full line corresponds to LoQ/2.
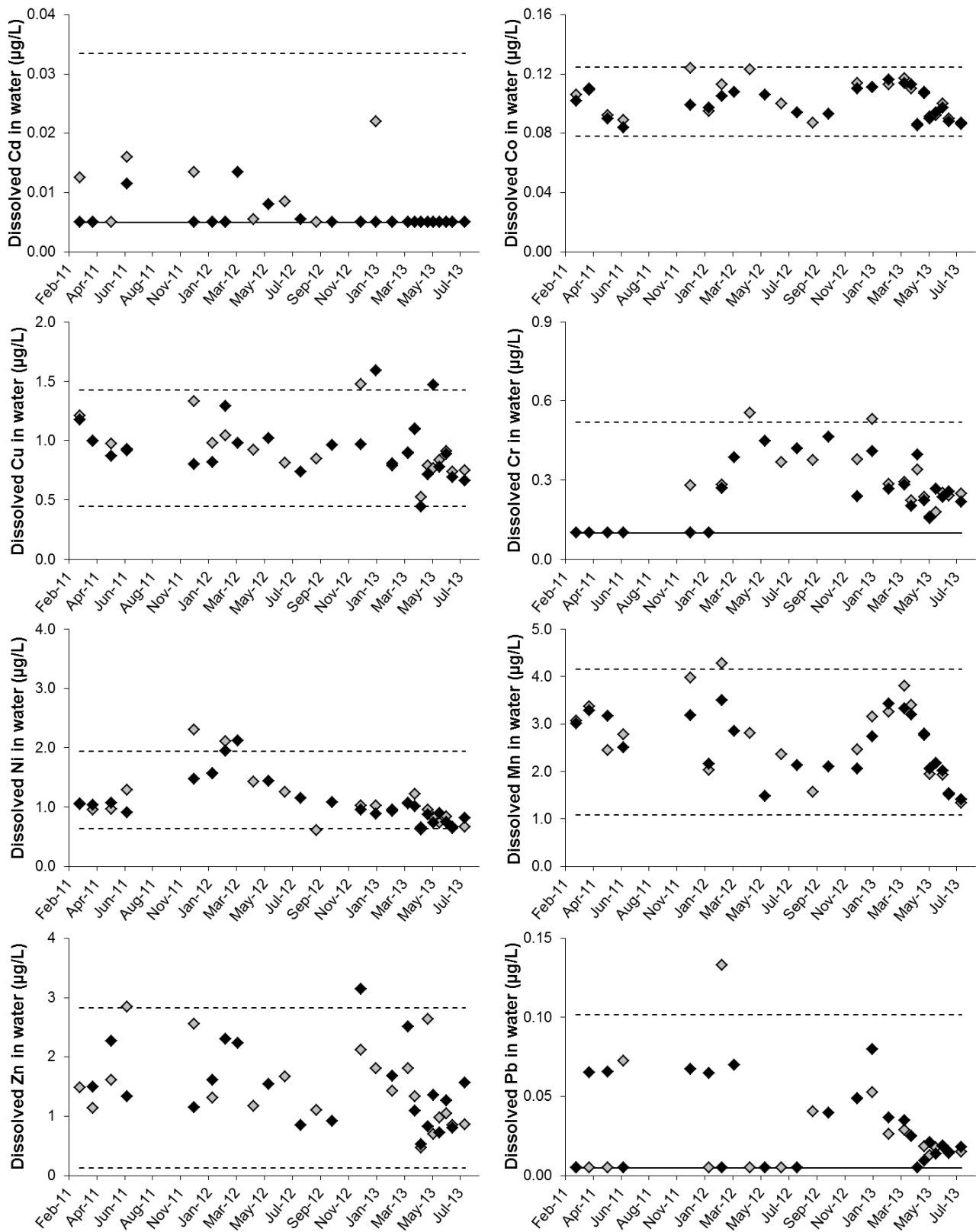
Figure S2. Dissolved metal concentrations in the Rhine water at the upstream (◆) and downstream (◆) sites of mussel transplantation during the long-term monitoring (March 2011-July 2013). The dotted lines are 95% prediction intervals (n = 45, data for both confounded sites). For Cd, Cr and Pb, the full lines correspond to LoQ/2.
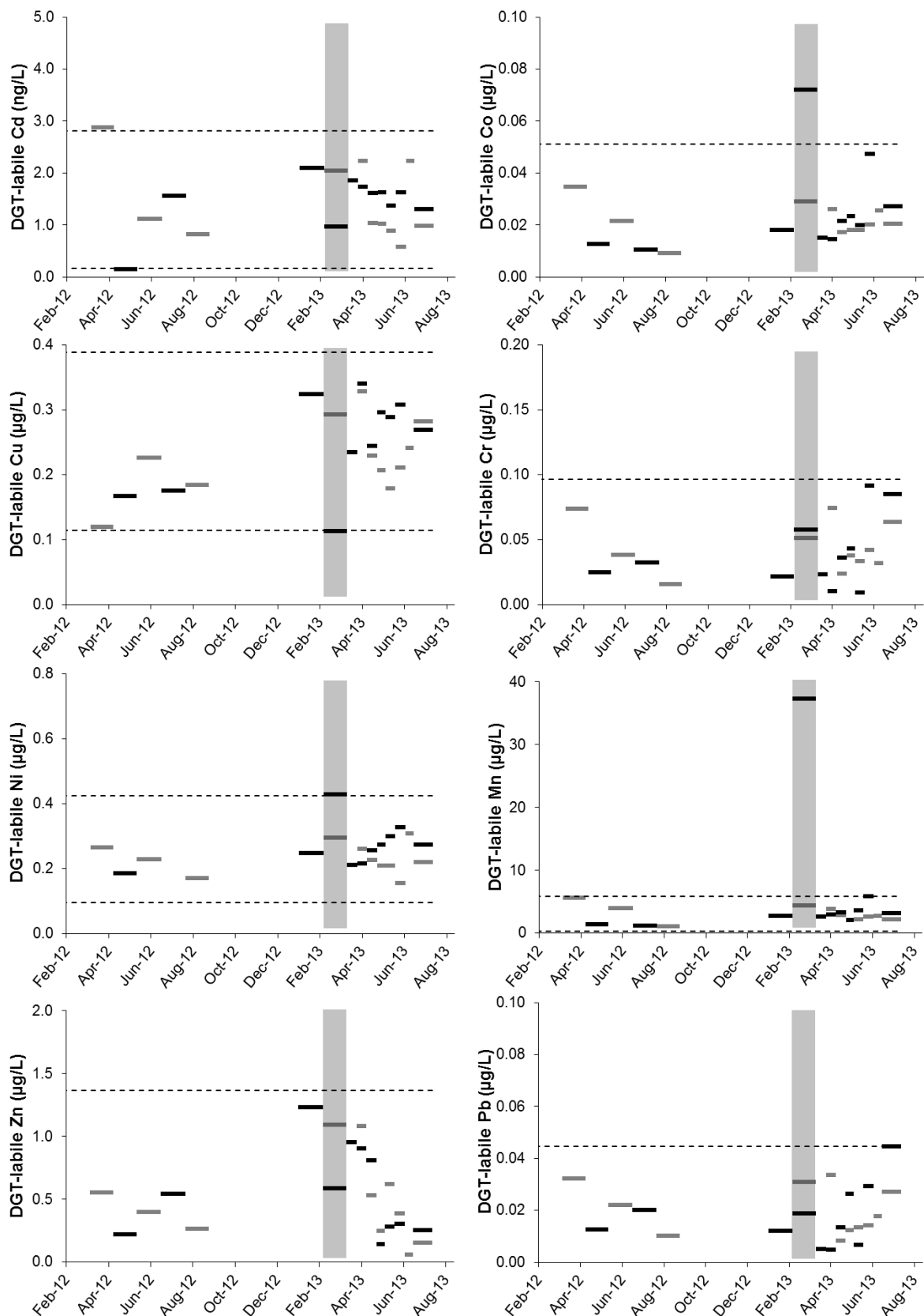
Figure S3. DGT-labile metal concentrations in the Rhine water at the upstream (grey bars) and downstream (black bars) sites of mussel transplantation during the long-term monitoring (March 2012- July 2013). The dotted lines are 95% prediction intervals (n = 23, data for both confounded sites). The grey bar corresponds to the 5-weeks period of dredging.

Figure S4. Condition index (bars) and survival rate (symbols) of mussels transplanted at the upstream and downstream sites during the long-term monitoring (March 2011- July 2013). * indicate significant differences in condition indexes between transplanted mussels (blue bars) and controls freshly collected on the sampling site for each of three collection dates (red bars).