

**PRESENCE AND ENVIROMENTAL IMPACT OF PERSONAL-CARE PRODUCTS  
(UV FILTERS) IN URBAN AQUATIC ECOSYSTEMS**

**(ANNEXES)**

## ANNEX 1 – Study Case: Barcelona



Figure 19 – Map of the surrounding metropolitan area of the city of Barcelona. Adapted from Generalitat de Catalunya, Departament de Territori i Sostenibilitat, 2013.



## ANNEX 2 – Llobregat and Besòs sampling campaign

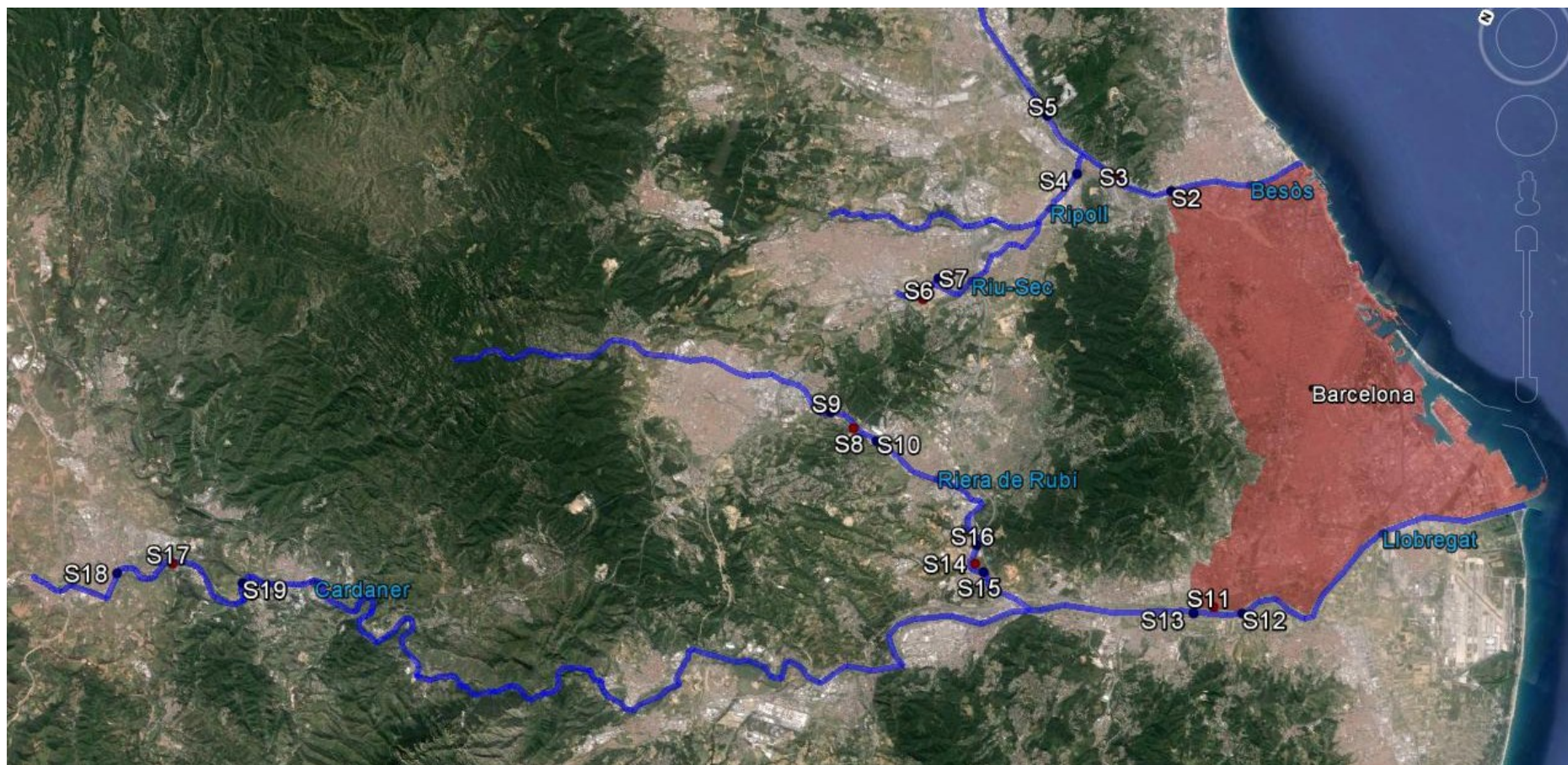


Figure 20 – Spatial distribution of samples collected in the Llobregat and Besòs Basin's in 13/02/2014. Elaborated using the spatial tools of Google™ earth.



**Figure 21 – Sampling material ready to leave the laboratory.**



**Figure 22 – Sample collection over the Llobregat river near St. Feliu de Llobregat.**



**Figure 23 - Sample collection over the Llobregat river near St. Feliu de Llobregat.**



**Figure 24 – WWTP sample collection over the St. Feliu de Llobregat treatment plant.**



**Figure 25 – Sample collection over the Riera de Rubí tributary river.**



**Figure 26 - Sample collection.**

## ANNEX 3 – Tables of environmental risk assessment

Table 20 - Hazard Quotients of acute toxicity for *Daphnia magna*, *Daphnia galeata* and *Vibrio fischeri* (river water).

Hazard Quotients of acute toxicity river water								
		<i>Daphnia magna</i>				<i>Daphnia galeata</i>		<i>Vibrio fischeri</i>
		BP3	4MBC	BZT	MeBZT	BZT	MeBZT	MeBZT
LC <sub>50</sub> (mg L <sup>-1</sup> )		1.9	0.56	107	51.6	15.8	8.58	8.7
Sample name								
S2	Besòs	0.03	0.02	0.02	0.08	0.16	0.49	0.48
S4	Ripoll	0.01	0.02	0.04	0.08	0.27	<b>0.50</b>	<b>0.50</b>
S5	Besòs	0.01	0.01	0.03	0.10	0.18	<b>0.58</b>	<b>0.58</b>
S7	Riu-Sec	0.02	0.03	0.05	0.07	0.31	0.45	0.44
S9	Riera de Rubí	0.01	0.05	0.00	0.02	0.02	0.09	0.09
S10	Riera de Rubí	0.00	0.03	0.00	0.00	0.00	0.02	0.02
S12	Llobregat	0.00	0.01	0.00	0.01	0.02	0.08	0.08
S13	Llobregat	0.00	0.06	0.00	0.01	0.01	0.06	0.06
S15	Riera de Rubí	0.02	0.02	0.08	0.14	<b>0.54</b>	<b>0.84</b>	<b>0.83</b>
S16	Riera de Rubí	0.02	0.01	0.01	0.04	0.08	0.23	0.22
S18	Cardaner	0.00	0.01	0.00	0.00	0.00	0.01	0.01
S19	Cardaner	0.00	0.00	0.00	0.01	0.02	0.03	0.03

Table 21 - Hazard Quotients of chronic toxicity for *Pimephales promelas* and *Oncorhynchus mykiss* (river water).

Hazard Quotients of chronic toxicity river water							
		<i>Pimephales promelas</i>		<i>Oncorhynchus mykiss</i>			
		BP1	EtPABA	BP1	BP3 (1)	BP3 (2)	4MBC
LOEC (µg L <sup>-1</sup> )		4919.9	4394	4919	3900	749	415
Sample name							
S2	Besòs	0.01	0.01	0.01	0.01	0.07	0.03
S4	Ripoll	0.00	0.00	0.00	0.00	0.02	0.03
S5	Besòs	0.01	0.01	0.01	0.01	0.03	0.01
S7	Riu-Sec	0.01	0.01	0.01	0.01	0.06	0.04
S9	Riera de Rubí	0.00	0.00	0.00	0.00	0.02	0.06
S10	Riera de Rubí	0.00	0.00	0.00	0.00	0.00	0.05
S12	Llobregat	0.00	0.00	0.00	0.00	0.00	0.01
S13	Llobregat	0.00	0.00	0.00	0.00	0.00	0.08
S15	Riera de Rubí	0.01	0.03	0.01	0.01	0.04	0.03
S16	Riera de Rubí	0.01	0.01	0.01	0.01	0.05	0.01
S18	Cardaner	0.00	0.00	0.00	0.00	0.01	0.01
S19	Cardaner	0.00	0.00	0.00	0.00	0.01	0.00