



# ECSA 56 Coastal systems in transition

From a 'natural' to an 'anthropogenically-modified' state  
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**Title:**

**Evaluation of contaminant levels in aquatic organisms from Baixada Santista, Sao Paulo, Brazil**

**Authors & affiliations:**

*C. Goncalves<sup>1</sup>, M. B. Massuti<sup>1</sup>, M. Jovito<sup>2</sup>, M.B.G.Filho<sup>2</sup>, L.A. N. Junior<sup>2</sup>, R. C.L. Figueira<sup>3</sup> and P. F.Silvério<sup>1</sup>*

<sup>1</sup> Consultoria, Planejamento e Estudos Ambientais; <sup>2</sup> Companhia Docas do Estado de São Paulo; <sup>3</sup> Oceanographic Institute of São Paulo University

[cristina.goncalves@cpeanet.com](mailto:cristina.goncalves@cpeanet.com)

Baixada Santista has an extensive mangrove forest, which is a major food supplier (fish and shellfish) for human consumption and serves as a shelter, reproduction and foraging area for thousands of resident and migratory birds from the Northern Hemisphere. On the other hand, in this region it is located the main Brazilian harbor, being the marine environment susceptible to the impact caused by its activities (tanks cleaning, basements cleaning, dumping from ships moored in the harbor and losses of substances in loading and unloading operations); additionally there are activities from the industrial pole of Cubatao, the most important petrochemical complex in Latin America, and from sewage discharge of existing occupations in the margins (Gonçalves et al, 2013; Cetesb, 2001).

Considering the diffuse sources of contamination in the aquatic environment of Baixada Santista, in this study, it was investigated the levels of 40 organic contaminants (PCB, organochlorine pesticides and semivolatiles) and nine metallic elements (As, Pb, Cd, Cr, Ni, Zn, Cu, Mn, Hg) in aquatic organisms, having as focus its quality for human consumption. January 2010 through September 2015 sampling campaigns were carried out in Santos navigation channel, Bertioga channel and continental shelf. Different species of organisms used for human consumption collected in these areas, making possible to build a unique database in the region with over 1,000 results.

Chemical analysis indicated values below sample quantitation limits for most organic compounds. Metals results were below maximum tolerable intake established by Brazilian Agency of Sanitary Vigilance (ANVISA), but for total arsenic; this behavior was observed in all investigated areas, including Bertioga Channel, considered as a reference, without major influence of anthropogenic contribution. However, it is believed that these values are not concerning, since arsenic is mainly present in aquatic organisms as arsenobetaine, compound of low toxicity and easily excreted by the urine.