

Environmental quality of sandy beaches:

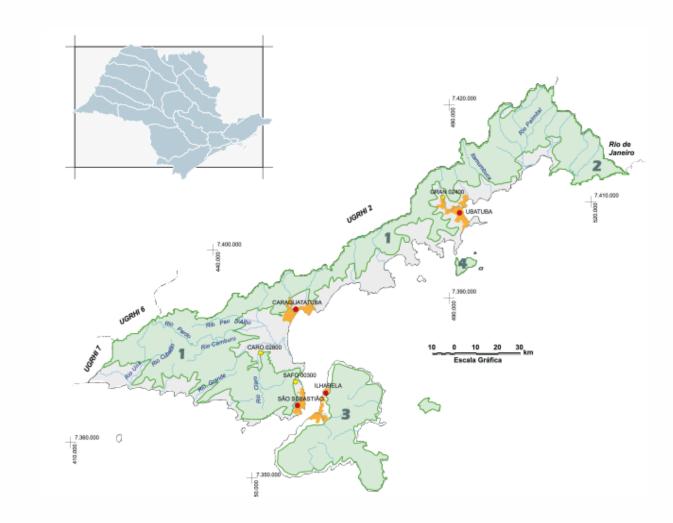
bioindicators as proxies for revealing chronic marine pollution

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MAIN QUESTIONS

- How are pollutants spatially distributed on the northern coast of São Paulo State?
- Do physiological condition and populational structure reveal long-term stress related to environmental contamination levels?



WHY?

Pollutants

Rapidly dispersed

Toxicity and persistence

Biotransference

Bioaccumulation

Macrobenthos ----

Potential indicators to assess variations in habitat quality

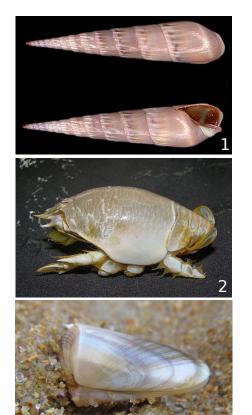
Sandy beaches

Good and services Highly impacted Poorly studied

HOW?



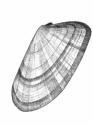
% Impossex TBT ---- Tin (Sn) **Heavy Metals** Concentration **Hydrocarbons Microplastics** —— Number of particles



Hastula cinerea Emerita brasiliensis

Donax hanleyanus

(biomarkers) Stress



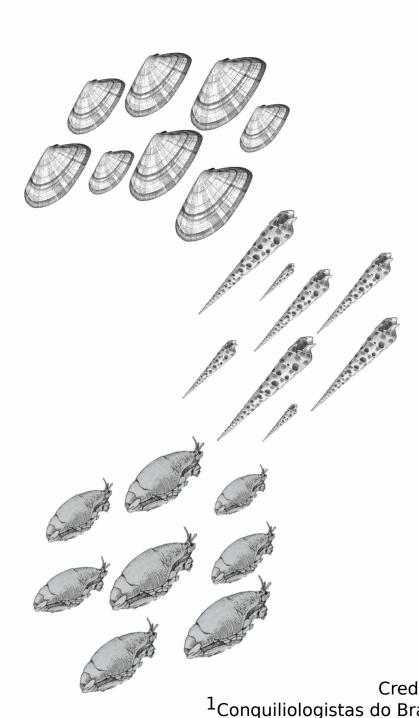
Organism level



DNA damage Energetic status (energy reserves)

Population level

Density/Abundance Body size Number of eggs Gonado-somatic index



Credits: ¹Conquiliologistas do Brasil ²Cláudio Dias Timm ³Diogo Luiz