Differences in perception and reaction of beach users` groups to beach marine debris that can influence a loss of tourism revenue in coastal areas.

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Fonte: inhabi at.com


Fonte: nationalgeographic.com.au


Fonte: onegreenplanet.org

Economic effects to coastal comunities are perceived, but rarely measured/estimated

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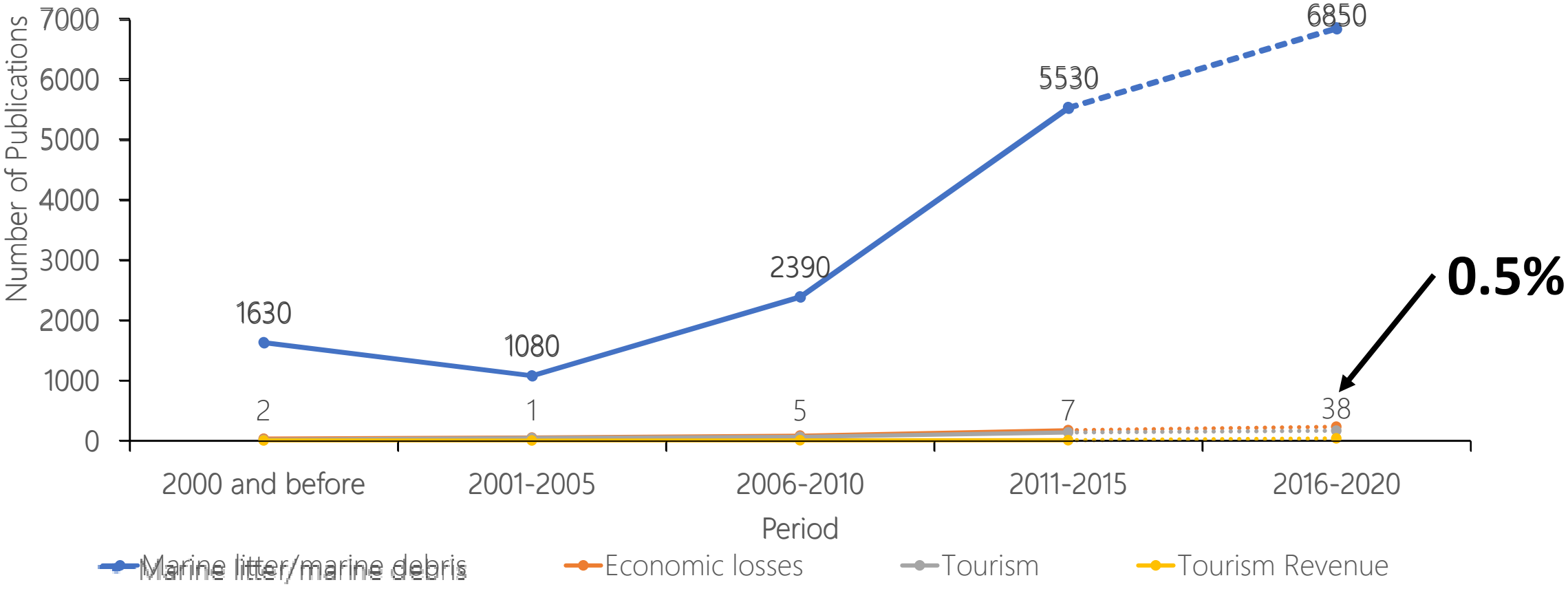
Marine Debris X Economics



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"Better to be safe than sorry..."

- To change the actual scenario of "perception-only", it is necessary to find adequate methods
- *Estimating* might be an useful tool for decision-makers (prevention *vs.* paliative)
- How to "**predict**", instead of measuring the impacts, **after** their occurance?

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Objective

- We decided to adapt methodologies that estimate impacts from marine debris *a posteriori* to estimate potential **lost sales of producers** due to increased marine debris (*a priori* - preventive)

- Sun-and-beach Brazilian district, using a Formulae adapted from Jang *et al.* (2014).

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Takeaway message

- It is possible to estimate the deterred tourism revenue **before** the impact
- Increase in marine debris may be potentially responsible by a **39.1% reduction to the tourism income of the city**
- **Each US$ 1 (beach cleaning) prevents at least US$ 4.4 lost sales of producers, which finally representes decrease tourism revenue!**

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But before...

- The beaches we have studied in Southern Brazil
- How we proceded the research (questionnaires we made, the differences we found in beach users groups and how we estimated the economic effects)
- Finnally we discuss the economic effects of users deterrence: increasing marine debris is a potential risk for local economies

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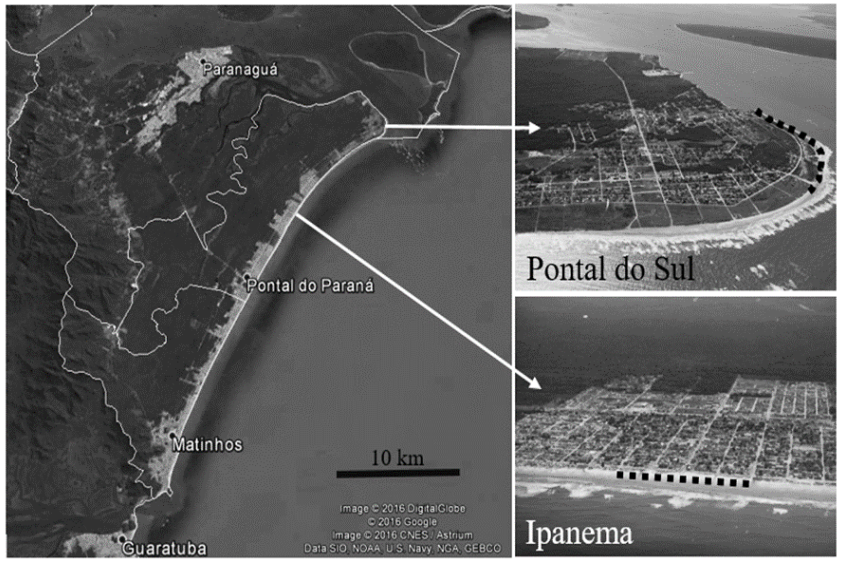
Pontal do Paraná

- Subtropical coastal city - approximatelly 25.000 inhabitants
- Paraná's coastal population density is 41.9 inhabitants/km2
- During summer, this number can reach 252.5 individuals/km2 (December to February)



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Methods

- 319 questionnaires - both tourists and shou, during austral summer (jan/feb 2015 and 2016)
- Who are the beach goers? (Second home owners/users -> SHOU or Tourists)
- Are there diferences between these groups?
- How tolerant are they to beached marine debris?
- What would be the impact of their dissuasion?

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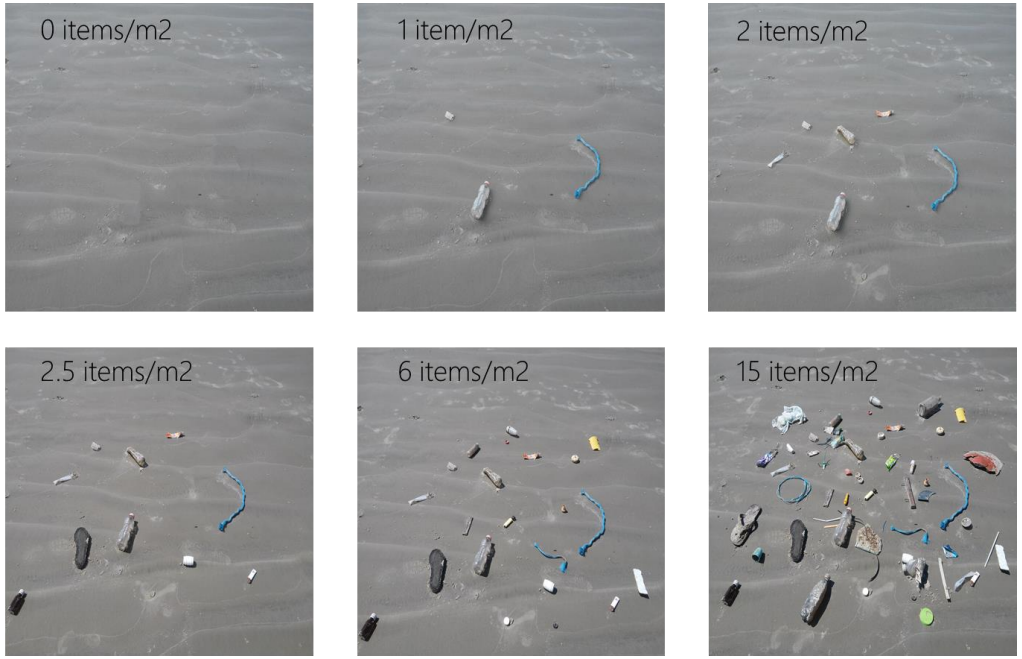
Methods

- We used pictures of scenarios of increasing pollution and they should ellicit the scenario in which they would be firstly dettered.



- Based on the number of deterred users and their socioeconomic characteristics (number of days per trip, daily expenditure) it was calculated the economic effects per scenario.

DTR= [(# of deterred users) * (Daily expenses)] * #days

calculations made per users group and per scenary

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Results

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S.H.O.U. X TOURIST

- Beach trips frequency (more than once - 58.4%)

- Longer period of permanence: 6.8 days

- Lower daily expenditure: US$14.24

- Education level* (UNIVERSITY - 42.2%)

- Greater economic effects (US$96.83 per trip)

- Beach trips frequency (only once 62%)

- Shorter period of permanence: 3.5 days

- Higher daily expenditure: US$23.93

- Education level* (HIGH SCHOOL - 42.7%)

- Lower economic effects (US$83.75 per trip)

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Perception X Reaction

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Beach users' perception X Economic effects

items/m2	2.5 items/m2	6 items/m2	15 items/m2
Beach users deterred	20.4%	38.7%	83.9%
Potential decrease in income from tourism	4 - 10%	7.5 - 19.3%	15 - 39.1%
Decreased tourism revenue (DTR in million dollars)	US$ 0.88 - 2.29	US$ 1.65 - 4.28	US$ 3.27 - 8.53

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Better to be safe than sorry?

- Estimated costs of cleaning US$200,000
- Preventing at least US$ 880,000 of decreased tourism revenue (could reach 10 times more!)
- It means that each dollar invested in beach cleaning avoids 4.4 dollars of decreased tourism revenue

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Conclusions

- We have found that Second Home Owners/Users and Tourists are effectively distinguishable groups
- However groups were dissuaded by similar amounts of litter
- Economic effects may be significant even/especially to small cities
- Estimating the potential economic effects (*a priori*) is possible and essential to comunicate with managers, to plan long term
- However substituting palitative to preventive measures may take longer than we would like… ☹

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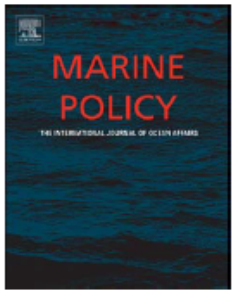

Differences in perception and reaction of tourist groups to beach marine debris that can influence a loss of tourism revenue in coastal areas

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