ASSESSING COMPLIANCE WITH BALLAST WATER INTERNATIONAL REGULATIONS IN ARGENTINA

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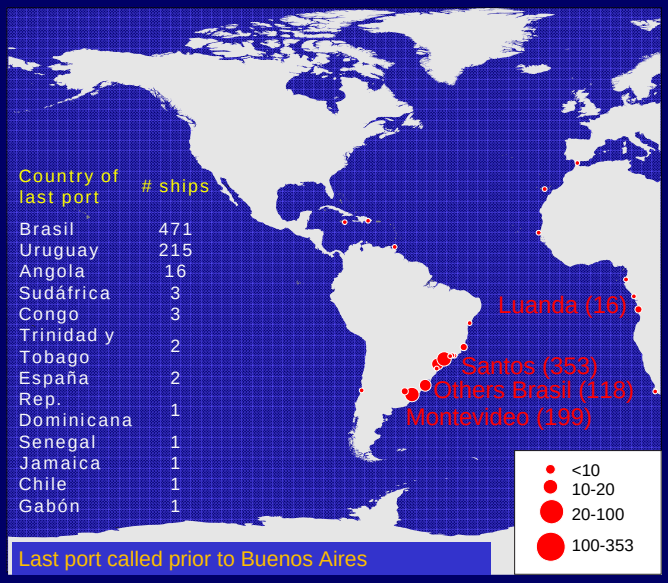
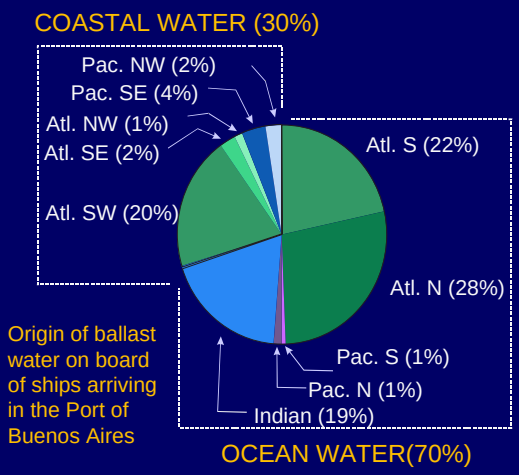
Introduction

- Ballast water (BW) used by commercial ocean-going vessels to balance cargo is the main source of aquatic introductions worldwide.
- While ballast water management is internationally regulated to prevent species introductions, enforcement varies among countries
- Cargo logs may be used as an independent indicator of potential ballast water discharges
- We used cargo logs to assess the accuracy of ballast water reporting forms (BWRF) submitted by vessels entering a major South American port
- And to assess BW-associated risk of introduction of alien species

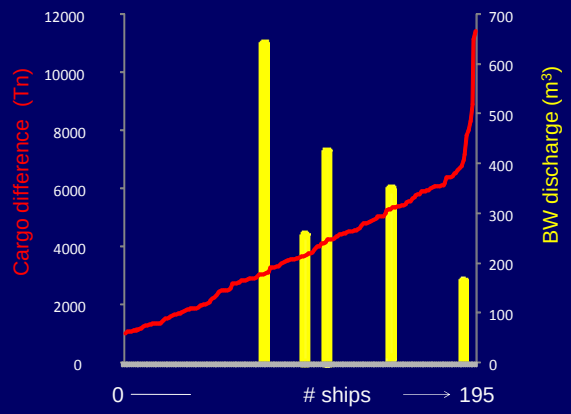


Methods

- Between June 2010 and June 2011, we collected BWRF of all ships entering the port of Buenos Aires
- Data on origin, exchange, and discharge of BW was recorded
- This information was compared with cargo logs provided by customs for the same vessels
- In total, we collected information on BW management for 2009 tanks accounting for 713 ships in total
- Traffic was dominated by container ships (94%)



Origin of ballast water on board of ships arriving in the Port of Buenos Aires



Ballast water discharge and cargo difference (uploaded – downloaded) for all vessels leaving the port 1000 tn heavier in cargo than they arrived in the Port of Buenos Aires

Results

- While only a tiny fraction of ships (3%) entering Buenos Aires report port BW discharges, cargo analyses indicate that 30% leave port with >1000 metric tons of cargo more than on arrival.
- For the largest part of this 30% we did not retrieve a BWRF, although forms collected indicate that up to 1/3 of all tanks in this study were exchanged in coastal areas or not exchanged at all.
- While ships arriving in Buenos Aires come from only a few ports, water in BW tanks is originated in multiple regions worldwide
- These results suggest a high degree of inaccuracy in BWRF and a potentially high introduction risk via this vector
- Alternatively, the tenfold difference between reported and estimated BW discharges could be explained by: 1) A large proportion of vessels entering Buenos Aires call first the Port of Montevideo (in the same estuary) perhaps deballasting there; 2) A low port depth may oblige deballasting of large vessels prior to arrival in Buenos Aires