



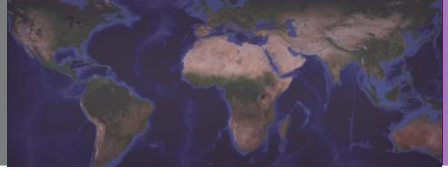
DIVE INTO DATA:

Bloomberg & Clean Ocean Action

Nicole Barberis, Michael Campellone, Victoria Cerullo

Bloomberg

BLOOMBERG PHILANTHROPIES



An umbrella organization incorporating:

1. Corporate Philanthropy
2. Personal Giving
3. Foundation Grants



BLOOMBERG PHILANTHROPIES



FIVE FOCUS AREAS:

Public Health

Education

Government Innovation

Arts

Environment

MISSION:

Ensure better, longer lives
for the greatest number of
people



VIBRANT OCEANS INITIATIVE

VIBRANT OCEANS INITIATIVE: THE PROBLEM

- The demand for fish has outpaced the ocean's supply.
- The amount of marine fish caught peaked in the 1990s and has since declined by 8%, while at the same time global fish consumption grew by 45%.

3 billion

people depend
on oceans for
food and
income



VIBRANT OCEANS INITIATIVE: THE SOLUTION

**PROPER
MANAGEMENT**

**INCREASE THE
NUMBER OF FISH IN
THE OCEAN BY 50%,**
helping create a
healthier ecosystem

+

**FISHERS INCREASE
THEIR CATCH BY UP
TO 40%,** providing
food and income



30 COUNTRIES represent
the majority of catch

We're focusing on **CHILE,
THE PHILIPPINES, AND BRAZIL**

Lessons learned can be
exported

BLOOMBERG LP: DATA-DRIVEN APPROACH

North America ☆

Legislation Dashboard (BI BILLN)

51) Consumer Staples

Chapter: Beating Back Microbeads

Senate Microbead Ban Mirrors House Bill as Passage Looks Smooth

06/8/15

Analysts [Melissa Avstreich](#) & [Tiffany Young](#)

It's increasingly likely that consumer-product companies will need to reformulate products such as toothpaste and body washes by 2018 to comply with a U.S. ban on microbeads. A Senate bill was introduced May 21 to bar the sale of products made with synthetic microbeads. The Senate's version is identical to a bill passed by a House panel on May 14. Duplicate bills remove the need for negotiations between the House and Senate, indicating the ban can move quickly through the legislative process.

Impact: Companies that create consumer products that have microbeads include Estee Lauder, Johnson & Johnson, Procter & Gamble, L'Oreal and Avon. They would be affected by the bill's requirements.

Microbead-Free Waters Act

S.1424: Microbead-Free Waters Act of 2015 (114th Congress)

Official Title » A bill to prohibit the sale or distribution of cosmetics containing synthetic plastic microbeads.

Committees » Senate Health, Education, Labor, and Pensions

Related Bills » None

Bill Progress » Latest milestone 05/21/15 - Bill introduced

Actions » Latest Action 05/21/15 - Read twice and referred to the Committee on Health, Education, ...

Primary Sponsor »  Sen. Kirsten Gillibrand (D-NY)
Ranked 0/100
Not Returning to Same Office
Next Term

All Sponsors/Co-Sponsors »

- Kirsten Gillibrand 0/100
- Mark Kirk 0/100
- Gary Peters 0/100
- Robert Portman 0/100
- Debbie Stabenow 0/100

Exhibit

BOB: ENGAGEMENT

Snapshot of 2014:

- **7,300** employee volunteers
- **57,000** hours of service
- Serving **1,200 nonprofits** worldwide
- Making an impact in **53 cities in 28 countries**



BOB: ENGAGEMENT

Bloomberg is proud to support
Clean Ocean Action (COA)!

Since 2011 ...

- **17** COA beach cleanup projects
- **200+** Bloomberg volunteers
- **800** Volunteer hours



OVERVIEW: DIVE INTO DATA

- COA presented our Bloomberg team with Beach Sweep Data collected by volunteers from 2005-2013, a subset of the organization's 30 year collection initiative
- Data included **type and count** of garbage collected, **site locations** where the garbage was collected, the **season and date** when the garbage was collected, and **volunteer data**
- Manual, pen and paper-based data collection process

OVERVIEW: DIVE INTO DATA

Bloomberg's Data Project: A Skills-Based Volunteer Model

Tangibles

- Data clean-up
- Data collection solution
- Database storage solution
- Analytics and Visualizations

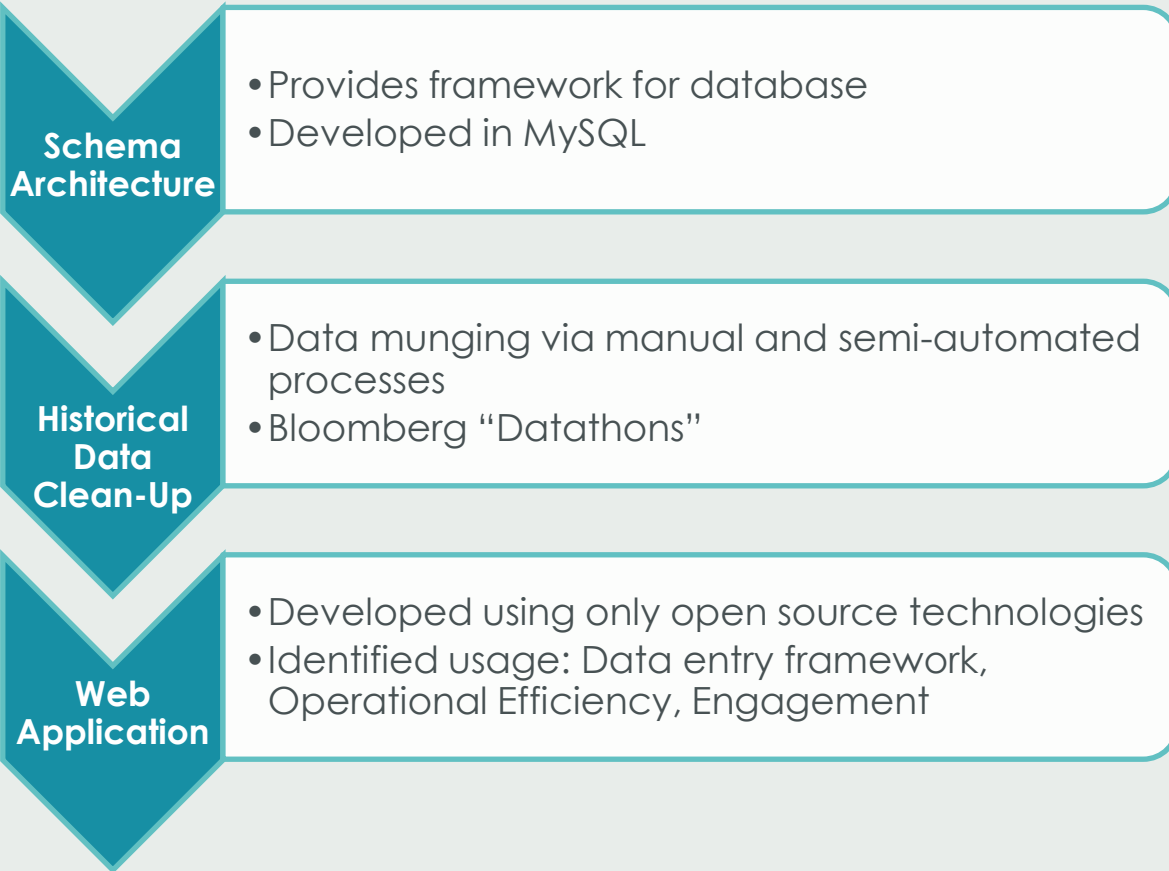
Education

- Educate on the following:
 - Data integrity
 - Standardization of data
 - Open source technologies

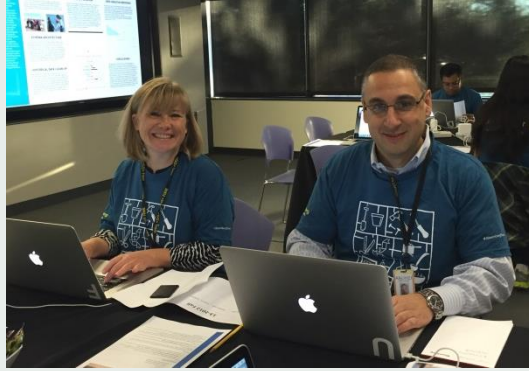
Bloomberg Partners

- Clean Ocean Action
- American Littoral Society
- Thames21
- Arakawa CleanAid

DATA GOVERNANCE & WEB APPLICATION



BEACH SWEEP DATATHON



TECHNOLOGIES UTILIZED

Web Application Demo:

- **URL:** <http://coa-app.elasticbeanstalk.com/contribution/>

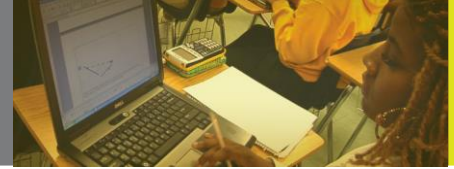
Analysis & Database

- **R**
- **MySQL**
- **Amazon Web Services** –
Amazon Relational Database
Service

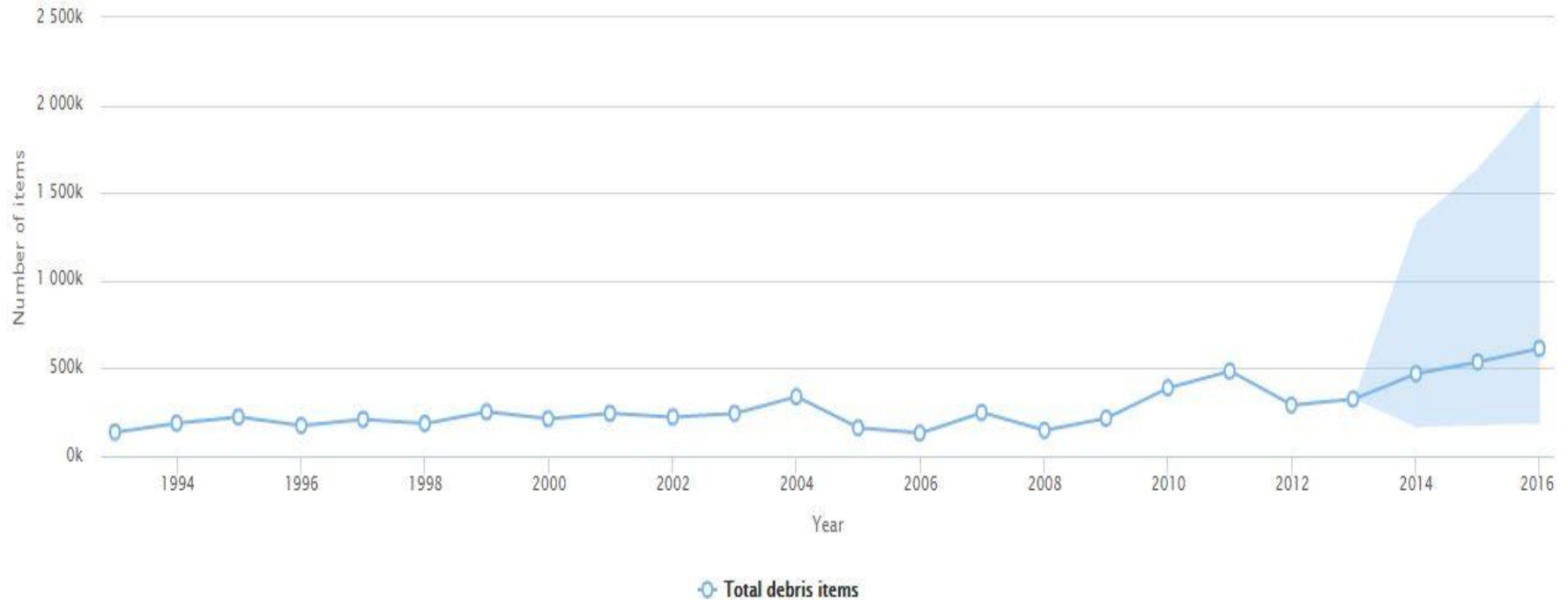
Web App

- **Python** – Programming
language
- **Flask** – Backend
- **Bootstrap** – Frontend

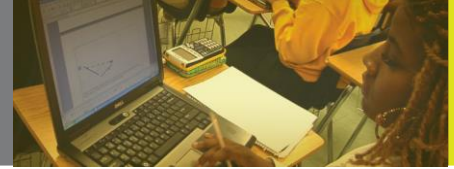
BLOOMBERG DATA SCIENCE



Total Debris Items Collected since 1993

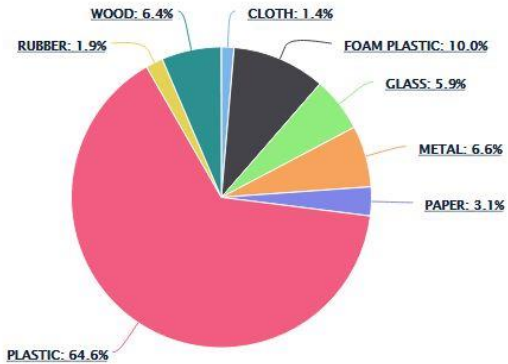


BLOOMBERG DATA SCIENCE



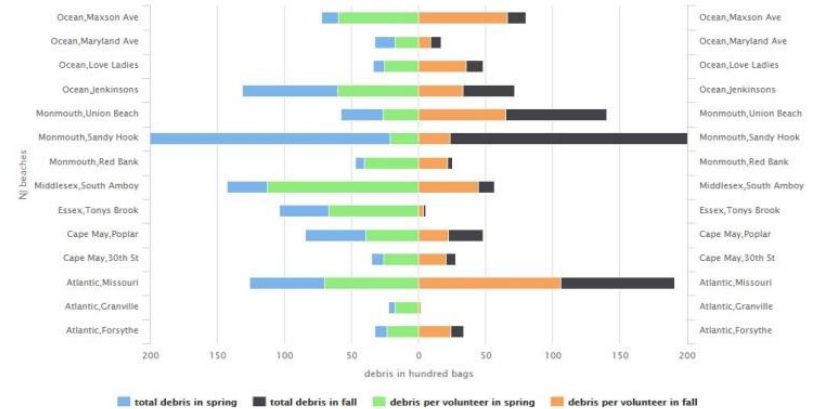
Debris Categories from 2006-2013

Click the slices to view versions

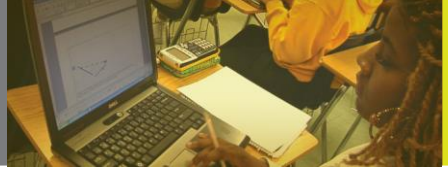


The amount of debris collected per volunteer on beach in 2013

Source: <http://www.cleaneoceanaction.org/>

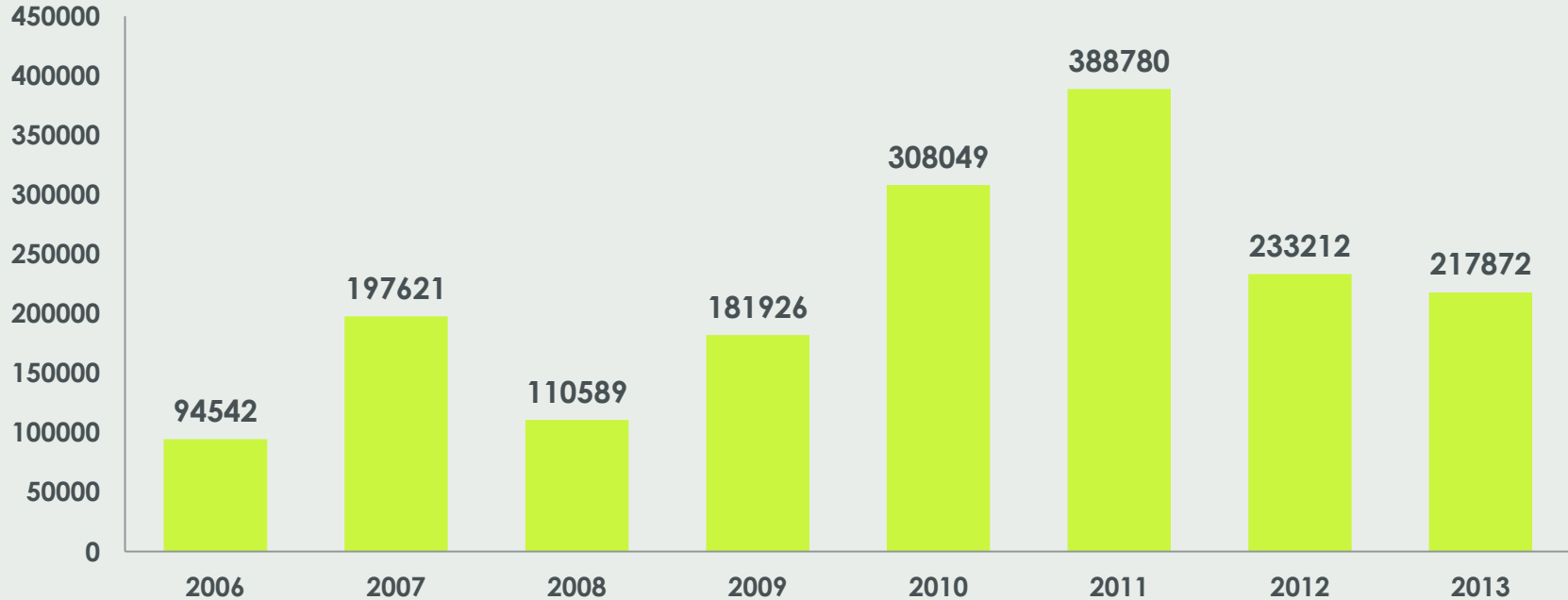


WE HAVE THE DATA: WHAT'S NEXT?



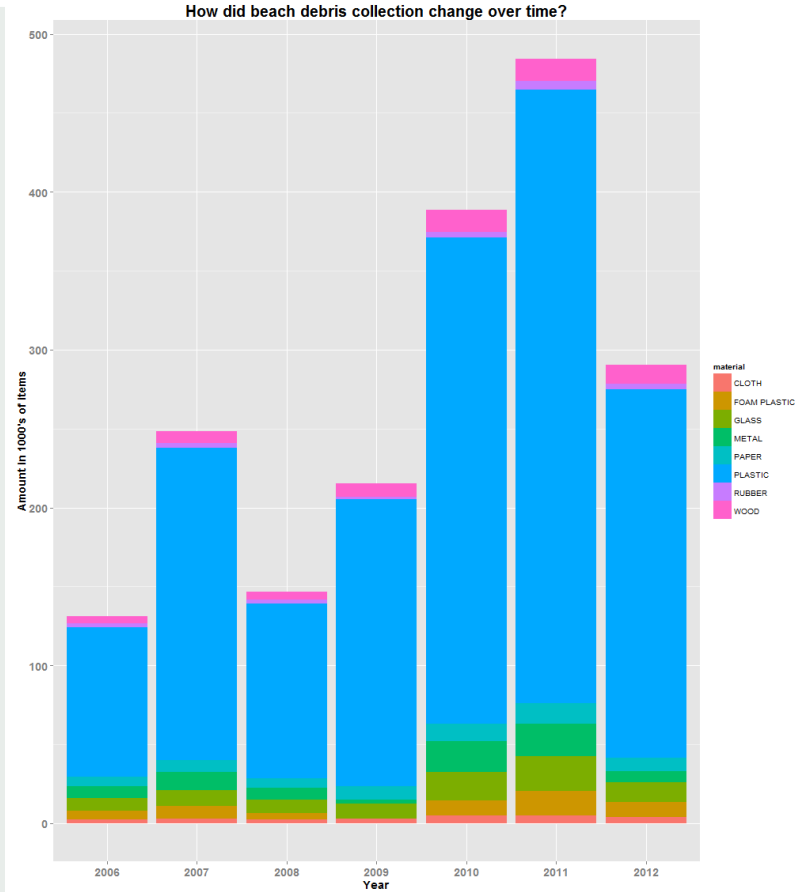
- **Business advantages** of managed data
- Easily **reproducible** Waste Management & Sustainability science
- Allows **Citizen Scientists** access to the data
 - In a format that can be **shared globally**
 - In a format that can be **combined with other data**
- Data Science: Descriptive statistics and now **advanced analytics**

TRENDS IN PLASTIC DEBRIS

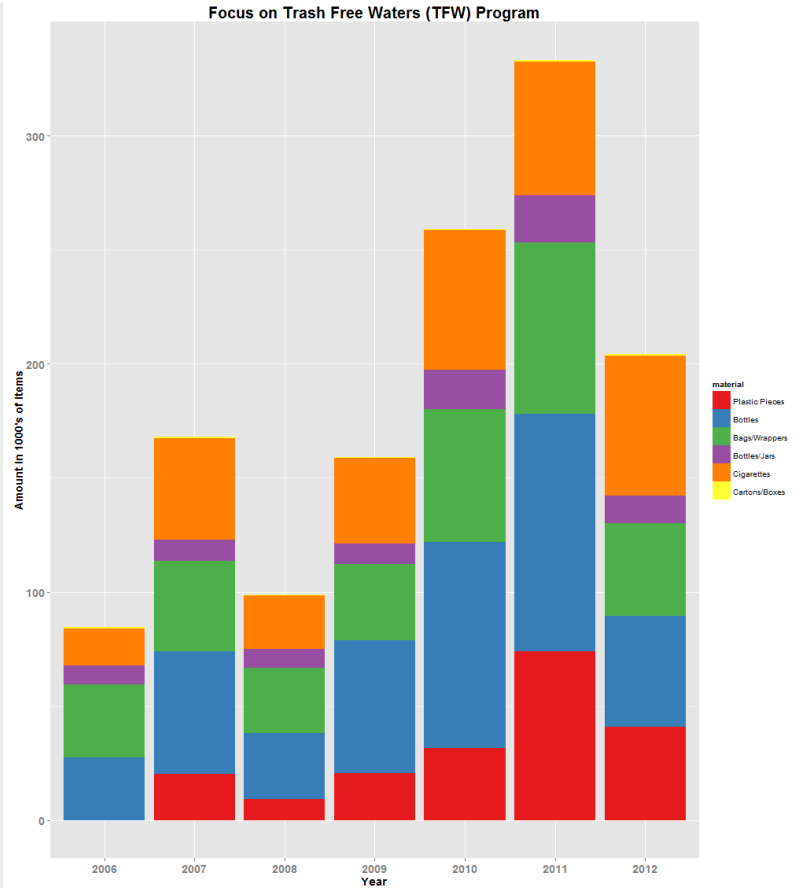


■ Plastics: Number of Items from 2006 - 2013

HOW HAS TRASH COLLECTION CHANGED OVER TIME?



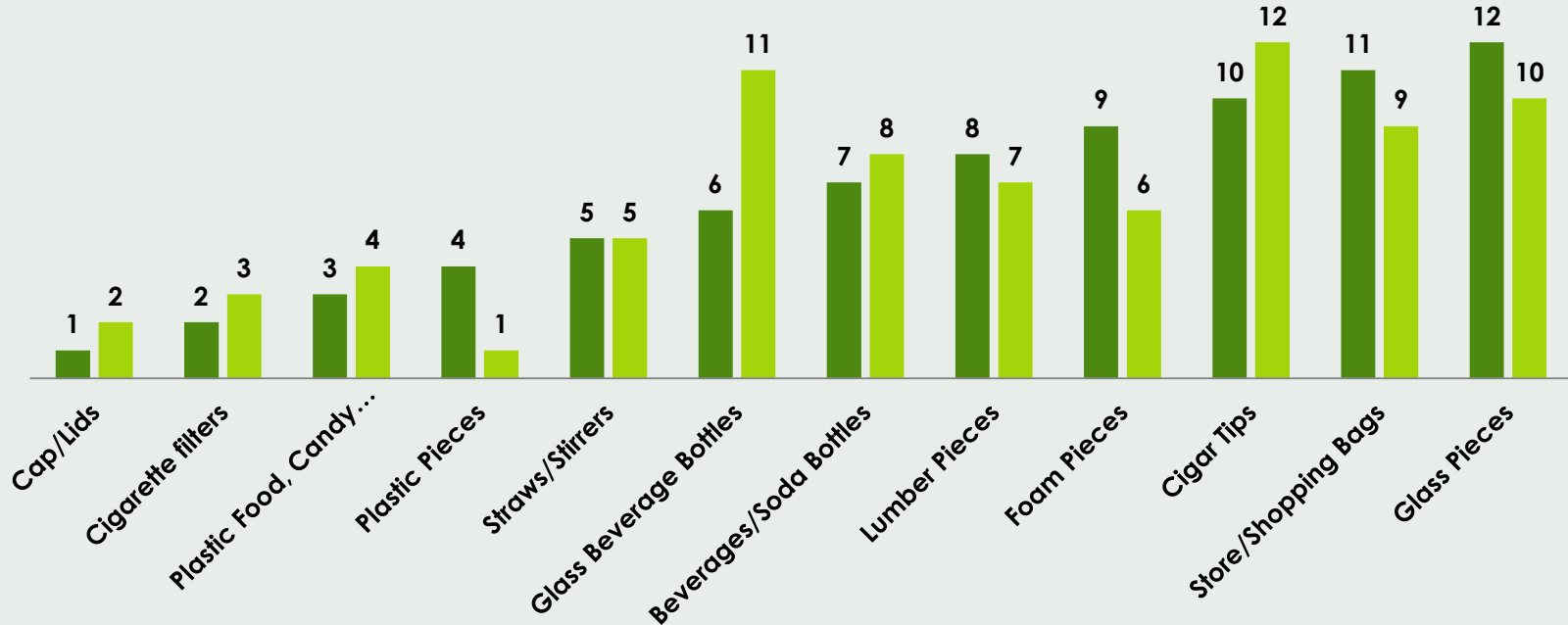
TRASH FREE WATERS (TFW) PROGRAM



THE DIRTY DOZEN

Dirty Dozen: 2013 vs history

■ 2006-2013 rank ■ 2013 rank



Thank you!

Questions?



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