



**Microplastics in the Urban  
Environment Conference Presentation**  
Gary Sondermeyer, Vice President of Operations  
Bayshore Family of Companies  
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# Business Approaches to Plastic Waste



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- **Gary Sondermeyer** – Bayshore Recycling - Statewide Perspective of a New Jersey Recycling Processor
- **Tristan Steichen** – Healthcare Plastic Recycling Council - New Jersey “Healthcare Sector” Perspective
- **Tristanne Davis** - GreenBlue Sustainable Packaging Coalition – Industry Consortium Perspective at the National and International Levels
- **Michael Arcieri** – Ekman Recycling – International Market Availability Perspective for Recovered Product



# Incredibly Exciting Times!

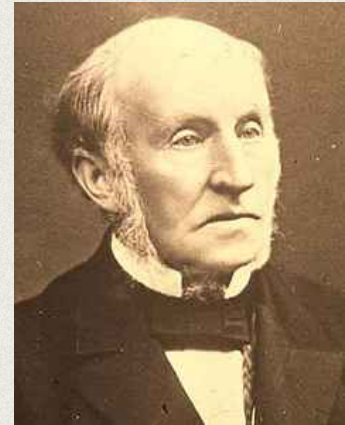


- **Recycling Markets** are the Most Challenging in History!
- We have **Unprecedented Media Focus** on Plastics in our Environment:
  - A “Plastic Ocean”
  - “Bag It – Is Your Life Too Plastic?”
- Single Use Plastics - Bag Bans, Straws, Polystyrene Food Service Products:
  - New York City Program
  - Sustainable Downbeach and Many Shore Communities
  - A4330 Sponsored by Assemblywoman Nancy Pinkin
- Recent Creation of the “**Alliance to End Plastic Waste**” and Pledge to Provide **\$1.5 BILLION** to Address the Problem  
(P&G, Shell, Veolia, Suez, Exxon/Mobile, Phillips/Chevron, Dow Chemical, PolyOne, BASF and others)
- International Pilot for Reuse by **TerraCycle: LOOP Program**  
(P&G, Nestle, PepsiCo, Unilever, Mars, Clorox, Coca-Cola)  
Toronto, Paris and New York City This May!!!



# A Brief History of Plastics

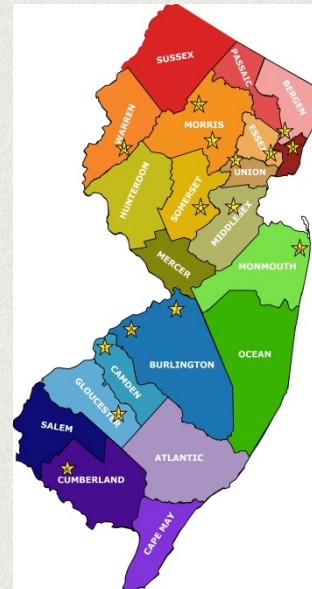
- 1862 – 1<sup>st</sup> Man-Made Plastic Created by Alexander Parkes at the Great International Exposition – London;
- 1868 - First Commercial Product – Billiard Balls;
- 1872 – PVC First Created;
- 1908 – Cellophane First Marketed;
- 1926 – Vinyl Invented from PVC;
- 1939 – Nylon and Neoprene Invented to Replace Silk;
- 1941 – PET Invented;
- 1951 – HDPE First Introduced;
- 1953 – Saran Wrap Introduced by Dow Chemical;
- 1954 – Styrofoam Invented;
- 1967 – The “Graduate” with Dustin Hoffman – “The Future is Plastic”
- 1970 – Dacron Polyester Used in Clothing;





# Where it all began – NJ Recycling

- **1982** – “Recycling in the ‘80’s”
- **1987** – Mandatory Recycling
  - “Floor” of Recycling “3 Materials, plus Leaves”
- Glass Containers, Aluminum Cans & Newspaper
- NO ONE Exempt!!!
- Down to “Kitchen Level”
- **1993** Plan and Integrated & Waste Management
- 50% MWS and 60% TWS Goals Codified by Legislature





# What's Left in the Can After 30 Years of Mandatory Recycling?



- Paper - 21.3%
- Plastics - 16.0%
- Textiles, Rubber, Leather - 10.2%
- Wood - 6.4%
- Yard Waste - 6.0%
- Food Waste - 24.8%
- Other Organics - 3.6%
- Metals - 3.5%
- Glass - 2.4%
- Inorganics - 5.4%
- Hazard Materials/Other - 0.4%



# SO....What's the Problem???



- Most New Jersey Towns have Gone to **“Single Stream”** v. **“Dual Stream”** Collection – Leads to VERY High Contamination and Compromised Markets
- **International Market Restrictions** from China – Green Fence & Green Sword
- **Recycling is Confusing** – Plastics Recycling is NUTS!!!
- **“Recycle Mania”** – EVERYTHING is recyclable!!!
- Total Disconnect between **“Supply and Demand”** – we Got the Stuff – Too Few Markets to Send it to!
- **Economics of Recycling** have Left the Building - In a Few Years Towns Went from “Getting Paid” to “PAYING” \$65/Ton + North!
- Long Lead Time Necessary to **Restore Domestic Markets**.
- 100 MILLION Tons Manufactured Globally Annually, In the U.S. – **only about 10% is recovered** of all Plastic;



# The Complexity of Plastics

## WHAT DO RECYCLING SYMBOLS ON PLASTICS MEAN?



### **PET, PETE (Polyethylene Terephthalate)**

- Soft drink, water and salad dressing bottles; peanut butter and jam jars...
- Suitable to store cold or warm drinks. Bad idea for hot drinks.



### **HDPE (High-density Polyethylene)**

- Water pipes, milk, juice and water bottles; grocery bags, some shampoo / toiletry bottles...



### **PVC (Polyvinyl Chloride)**

- Not used for food packaging.
- Pipes, cables, furniture, clothes, toys...



### **LDPE (Low-density Polyethylene)**

- Frozen food bags; squeezable bottles, e.g. honey, mustard; cling films; flexible container lids...



### **PP (Polypropylene)**

- Reusable microwaveable ware; kitchenware; yogurt containers; microwaveable disposable take-away containers; disposable cups; plates....



### **PS (Polystyrene)**

- Egg cartons; packing peanuts; disposable cups, plates, trays and cutlery; disposable take-away containers...
- Avoid for food storage!**



### **Other (often polycarbonate or ABS)**

- Beverage bottles; baby milk bottles; compact discs; "unbreakable" glazing; lenses including sunglasses, prescription glasses, automotive headlamps, riot shields, instrument panels...

@veganlogy

**Safe food containers are made from number  
1, 2, 4, and 5 plastics.**



# Plastics Recycling Breakouts

- IPF's or MRF's Process "Post-Consumer" Plastics;

- **Normal Breakout Categories:**

- PET: Clear Water Bottles
- HDPE Natural: Milk Containers
- HDPE Color: Laundry Detergent Containers
- LDPE Film Natural: Dry Cleaner Bags
- LDPE Film Colored: Clothing Bags
- Mixed Rigid: Spackling Buckets, Kids Toys
- Other 3 – 7 Plastic: Yogurt and other Containers
- PVC: White and Dark Piping, Etc.





# SO.....What Can We Do?

- Local Bans on Sale or Use – Straws and Film Plastic Bags;
- Statewide Legislation like A4330
- Stepped up Education & Enforcement Related to Contamination
- State Leadership (State Plan/County Planning Initiative)
- Incentives for Development of Domestic Markets – Business Recycling Loans as in Years Past
- Do we Stop Collecting Some Plastics – Just Look at #1 & #2?
- Do we go back to Dual Stream? (California Assembly Bill 815)
- Need a Statewide Markets Development Council
- We Must Reactivate the State SWAC
- Critical to have a Statewide Dialogue!







**Thank you**

**BAYSHORE**  
Your recycling solution.