**Building Plastic Pieces**

- Partnership were developed with sailing center, marine trade industry, and local government to address persistent marine debris and pollution issues, with a goal to foster environmentally responsible behaviors on land to eliminate marine debris.
- Partners perform the daily operations and seasonal maintenance, while COA spreads awareness via hands-on activities, education events, outreach and data-driven advocacy efforts.

**WHAT ARE WE DOING?**

- COA performs daily inspection of the material removed by the skimmer by identifying the type and quantifying the amount of debris removed, including the ratio of inorganic material, and digital records.
- Winds, tides, and precipitation events influence the amount of material removed each day. On one day in 2017 the units were emptied three times and removed over 250 pounds of co-mingled marine debris!

**Debris Inspection**

**Education**

In 2017, COA created a hands-on education and outreach program bringing over 20 groups and 250 students to visit the marina trash skimmers for one-hour long sessions to educate, inspire, and empower the community to be the voice of change and act to solve the problem of litter and marine debris. Topics include:

- Global marine debris issue
- Power of partnership
- Marina Trash skimmer technology
- Hands-on inspection of debris
- Simple ways to improve ocean health

**Advocacy**

- Using the results of beach cleanups and skimmer daily inspection, we formed a multi-generational & community-based & data-driven grassroots advocacy campaign on Aquidneck Island (Newport, Middletown, Portsmouth) in Rhode Island.
- Results so far include:
  1. 2015 – Eliminated smoking at all beaches, parks, and cliff walk on entire island!
  2. 2018 – Eliminated single use plastic bags with 4MiL stitched handle requirements on entire island!

**OPERATIONS**

The MTS technology creates a surface current into the unit via a ¾ horsepower water pump that circulates 375 gallons per minute. Power input requirements are 30A 120V and have international compatibility. Unit uses approximately 13kwh/day. Water pump securely positioned in pump well with zinc anode on blade for electrolysis.

**OXYGENATION**

Vacuum Driven Aerator (VDA) prevents settling of debris inside the unit and oxygenates entire water column. This oxidizes hydrocarbons and emulsifies (or breaks down) the oil sheen allowing for easier removal. Increased levels of dissolved oxygen improve water quality and enhances the overall health of marine ecosystem.

**HOW DO THEY WORK?**

**Designed for continuous operation to capture all material floating on the surface of the water. In Rhode Island from two years of operations with detailed inspection of 25% of the volume of material, resulted in removal of 23,641 items as shown above.**

**INORGANIC DEBRIS**

- Organic Debris & Oil Sheen Removal
  - Units remove floating organic debris that piles up in marina and basin corners. With the aide of the VDA, the free floating organic material serves as a mechanism to capture/absorb pollution, oil sheen, and hydrocarbons, and preventing the contamination of sediment and reducing impact to ecosystem.

**WHERE ARE THEY?**

- 50 Marina Trash Skimmers
  - California (38)
    - Los Angeles (2), Newport Beach (11), San Diego (11), Santa Barbara (3), Long Beach (3), Huntington Beach (3), Laguna Beach (1)
  - New England (5)
    - City of Newport, RI (1), East Greenwich, RI (1), Fort William (1), Portsmouth (1), New London, CT (1)
  - Hawaii (3)
    - Pearl Harbor, Oahu (1), Pearl City, Oahu (1), Waimalu, HI (1)
  - Chicago, Illinois (2)
  - Bimini, Bahamas (2)

**WHAT CAN YOU DO?**

1. Identify areas of persistent accumulated marine debris and pollution
2. Build partnerships with marinas, businesses, and local environmental educators
3. Install marina trash skimmers!
4. Integrate marina trash skimmer operations with outreach activities
5. Document results of skimmers for community-based data-driven advocacy
6. Engage the community to use the data and their voice to eliminate marine debris
7. Contact Clean Ocean Access at www.cleanoceanaccess.org | 401-236-2561
8. Contact Marina Accessories Incorporated at www.marinatrashskimmer.com | 360-543-5808