

Clear Blue Sea a 501(c)(3)

Cleansing the Oceans of Floating Plastic Pollution



Clear Blue Sea

*Susan Baer, Executive Director
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June 2018*

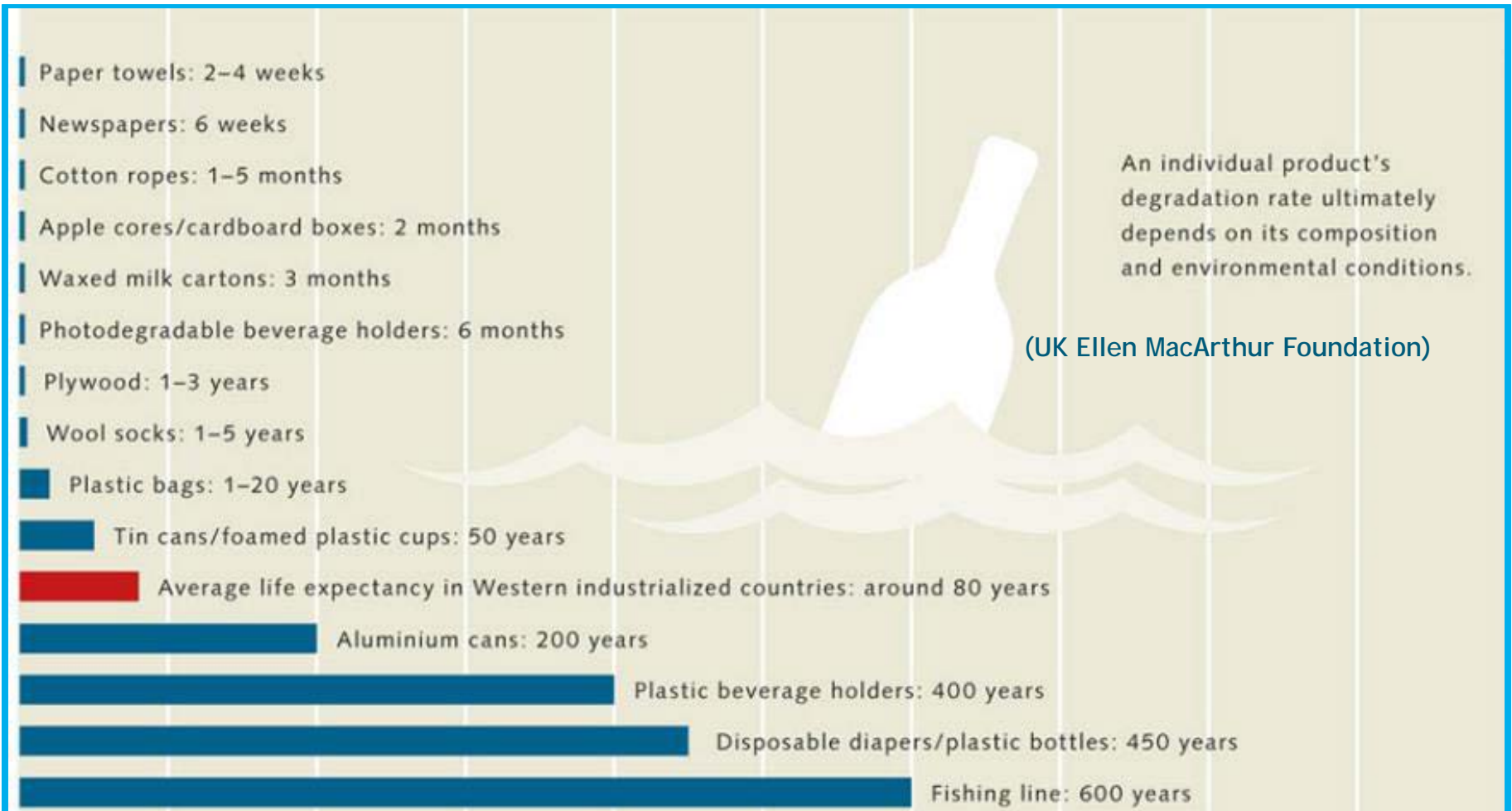
Plastic Pollution Is Ubiquitous



Ocean Plastics Are Winning the Battle



By 2025, oceans will contain 1 ton plastic per 3 tons fish



By 2050, oceans will have more plastic fragments than fish

Cleanse the oceans of plastic pollution



Environmental Damage



Strangled Seals

Suffocated Turtles



Starved Albatross

Losses to Marine-Based Industries

(McIlgorm, 2009)

Damage to
Asia-Pacific
Fishing
\$364 M

+

Damage
to Global
Shipping
Industry
\$379 M

+

Damage to
Marine
Tourism
Industry
\$622 M

=

Annual
Estimated
Financial
Total
Damages
\$1.265 B

Marine Plastic Off Bali - 2018



Our Innovative Robot is FRED



JUNE 2



FRED is Low Risk, Low Cost, and Scalable



Platform: Catamaran-based

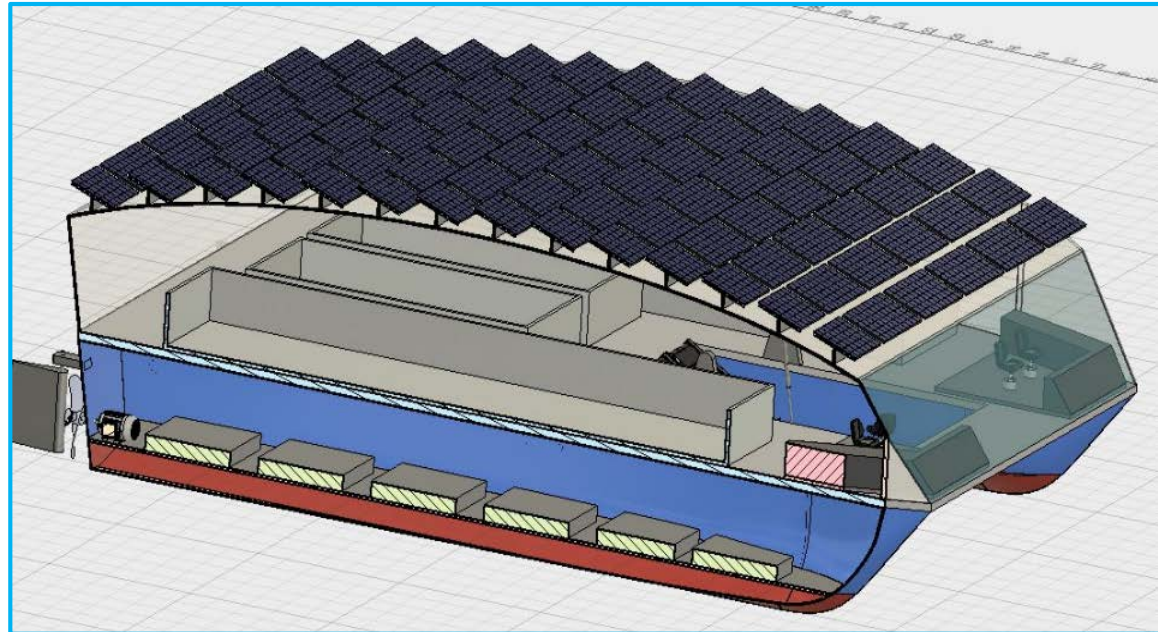
Debris Collection Subsystem

Solar Power Subsystem

Navigation Subsystem

IT Infrastructure

Sensors and Alarms

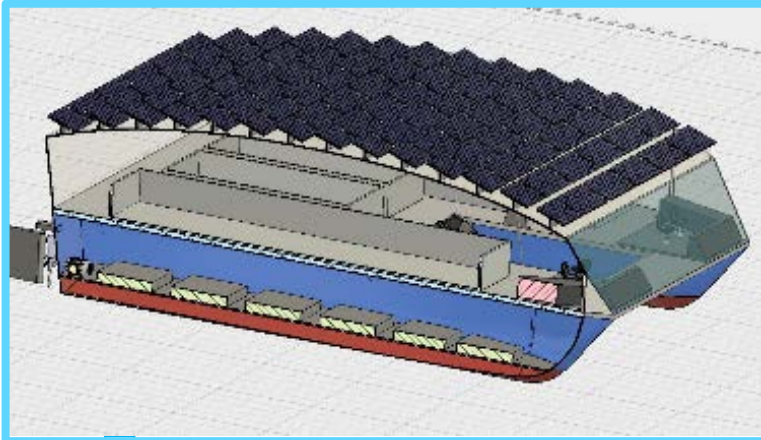


INTEGRATED PROVEN TECHNOLOGIES

We Believe Robots Are Best for the Job



FREDs



MISSION CONTROL



Concept of Operations

MOTHER SHIP



RECYCLING



Examples of “Upcycled” Marine Plastic

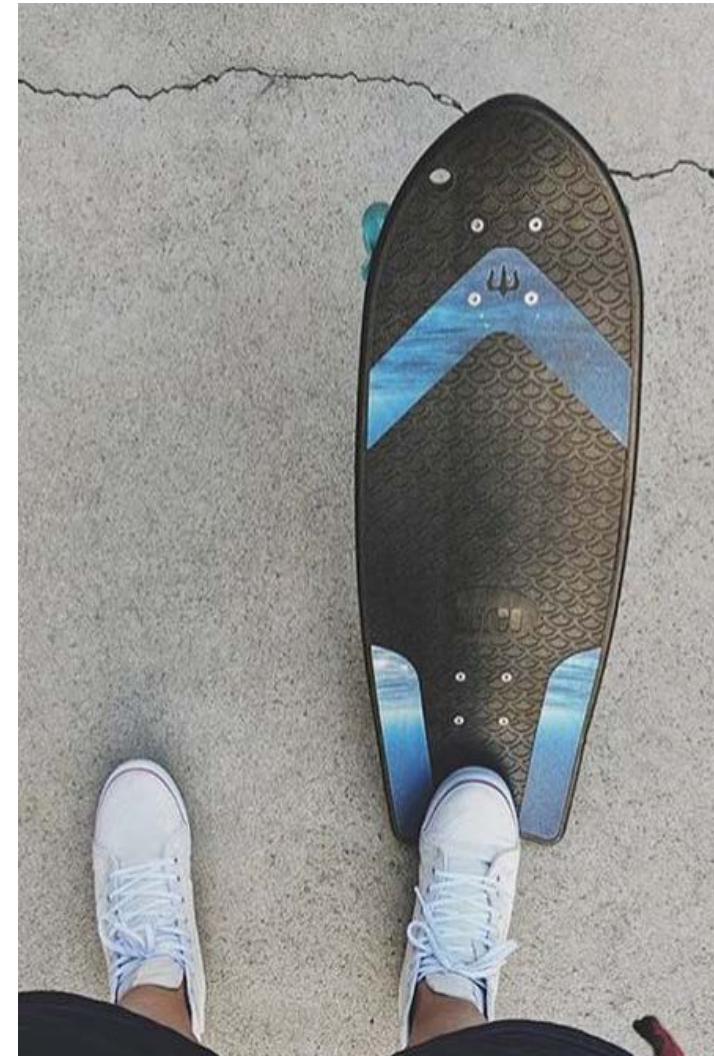


- Indonesia roads - 10% plastic
- Bureo Skateboards
- Norton Point Sunglasses



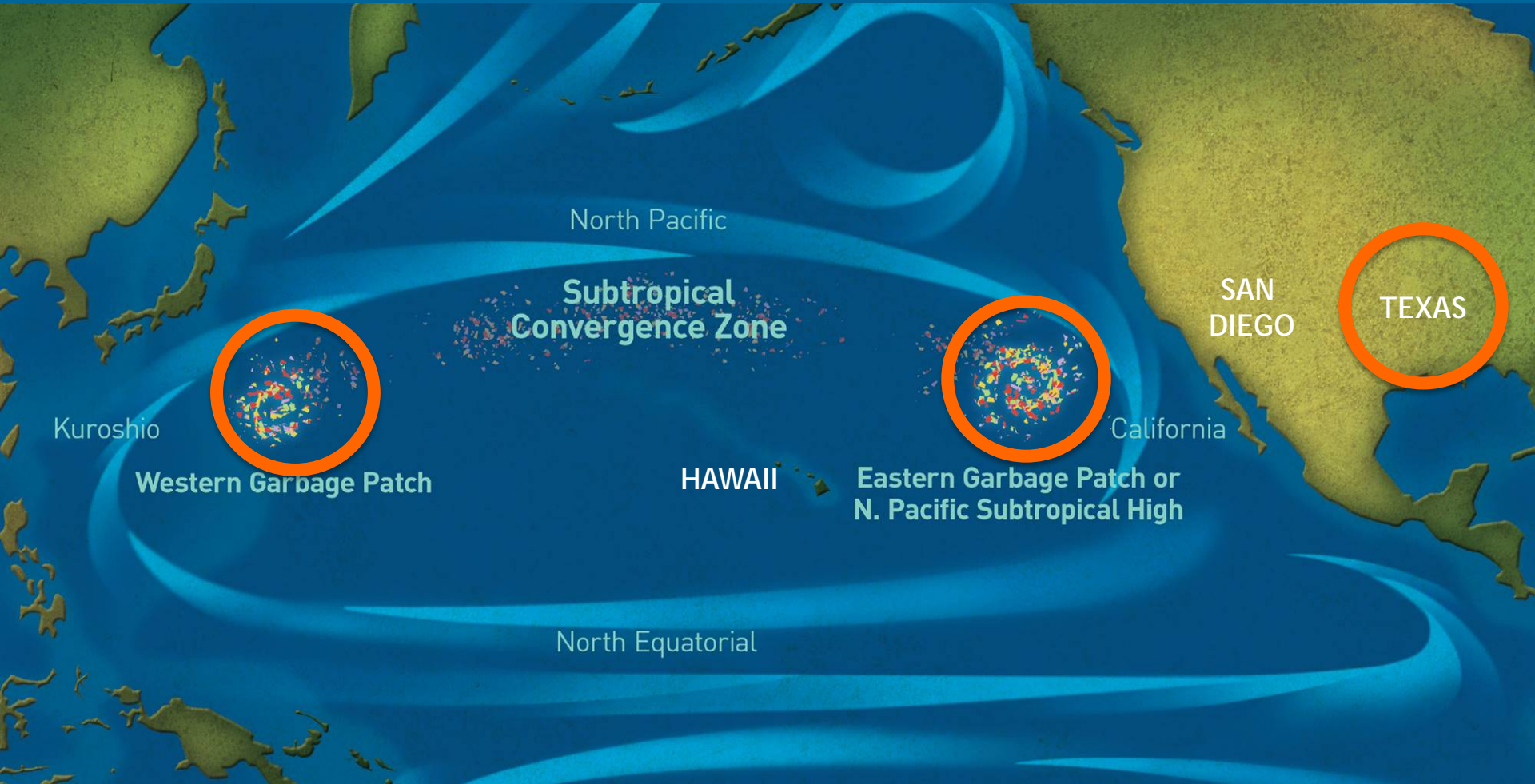
JUNE 2018

CLEAR BLUE SEA - a 501c3



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The Pacific Garbage Patches



are out of sight, out of mind

In SD, Marine Plastic is More Visible



In our bay,
on our beaches,
and in our rivers

**AS DOCUMENTED
IN THE SD BAY DEBRIS
STUDY**



We Mapped the Study's Recommendations



1. Focus on Mitigating Hotspots
2. Outreach to reduce polystyrene foam
3. Continue plastic debris monitoring
4. Investigate plastic debris impact on sensitive habitats
5. Examine food chain implications of local fish with ingested plastic

Clear Blue Sea Strategies

- • CLEAN UP
- • PREVENTION
- • SUPPORT RESEARCH

- **Supporting Research.** We can provide FRED-collected marine debris for academic/governmental research
- **Supporting Cleanup.** We can perform FRED Prototype Testing in San Diego “hotspots” for cleanup experiments
- **Coordinating Education.** We can coordinate our educational briefings with others to teach our youth
- **Leveraging San Diego Innovations.** We plan to utilize local new technologies and commercial products to build FRED
- **Supporting Advocacy.** Clear Blue Sea supports local efforts advocating for state/federal ocean cleanup

We Will Implement FRED in Phases



**Phase I
Start-Up &
Engineering
(San Diego)**

2016-2017

**Phase II
FRED
Prototype
(San Diego)**

2018-2019

**Phase III
FRED
Fleet Pilot
(Hawaii)**

2020-2022

**Phase IV
FRED
Full Ops
(Global)**

2023 and on

based on lessons learned from prototypes & pilots



- Generate revenue from recycled marine debris
- Sell FRED services for military/scientific payloads
- Commercialize patented FRED innovations
- Secure funding from industry associations
- Compete for contracts at the local, state, and federal levels requesting ocean cleanup solutions

Summer 2018 Projects



Supported by 12 College & High School Interns, 10 Volunteers, 8 Advisers

- Solar Power Subsystem Prototype
- Debris Collection System Prototype
- Integrated Testing Using Beach Trash
- Social Media Program
- Review of Most Recent Studies
- Review of Stakeholder Initiatives



大成 DENTONS



Sylvia Earle - Our Inspiration



“NO WATER, NO LIFE. NO BLUE, NO GREEN.”

- SYLVIA EARLE



Thank You for Your Interest in Clear Blue Sea

Feel free to contact us with your ideas

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