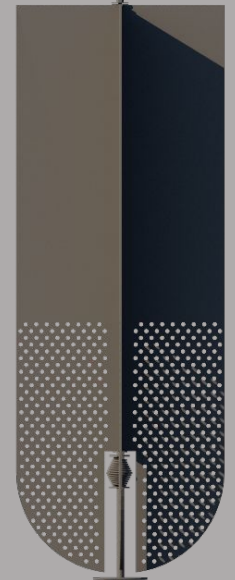
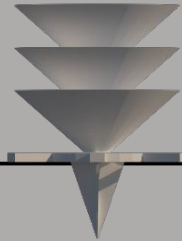
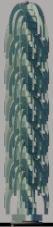


- Catalogue/Product Lines
- Intellectual Property
- Applications
- Markets



IP/Core Technologies/Manufacturing/Monetization

Intellectual Property: The IP embodied by these products and systems are utility patent pending protected in the United States, internationally through The Patent Cooperation Treaty (PCT) & Taiwan

Core Technologies are based on simple physical properties.

- **Corkscrew Attachment Methodology:** This method is groundbreaking for the incredible stability, and for ease of deployment or removal.
- **Soft Technology Flexibility:** CTC's systems replicates the miraculous ability of wetlands to absorb storm surge. Spring steel shafts and "fins" flex to absorb hydrodynamic wave energy.



It takes only seconds to drive a device.

Once installed the coil holds fast.



Manufacturing: Manufacturing relations have been established in China, and CTC has contacts through Taiwanese officials to establish manufacturing in Taiwan as well. Assembly facilities will be located regionally in the US to service specific markets. Larger full assembly will eventually move offshore.

Monetization: Monetization of various product lines will be customized to achieve & maximize desired outcomes, potentially including direct sales, engineering services, licensing, selling of divisions, intellectual property, etc.

ShoreGuard

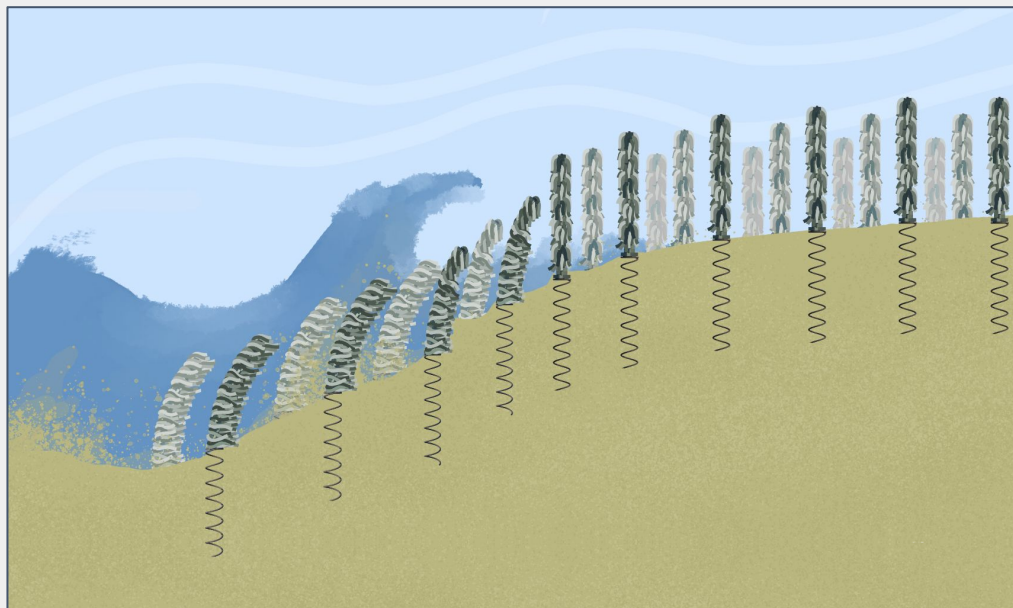
The ShoreGuard system is designed to decrease storm surge, control beach erosion and promote natural accumulation of sand.

ShoreGuard are easily deployed when hurricanes or damaging storm events are forecasted.

Installed in large quantities, each individual unit absorbs a modest amount of wave energy, but acting together the field behaves as an artificial “wetland”.

ShoreGuard will revolutionize the coastal barrier sector and become an important tool in controlling catastrophic storm erosion and flooding of low-lying communities.

ShoreGuard can be utilized to secure and naturally accrue sand on beaches, reducing the need for expensive and ecologically damaging “beach nourishment” sand replacement.



According to the NOAA, 15 feet of wetland grasses can absorb up to 50% of storm surge energy

Coastal Technologies Corp has harnessed this natural superpower to protect vulnerable shores and communities

Product: ShoreGuard

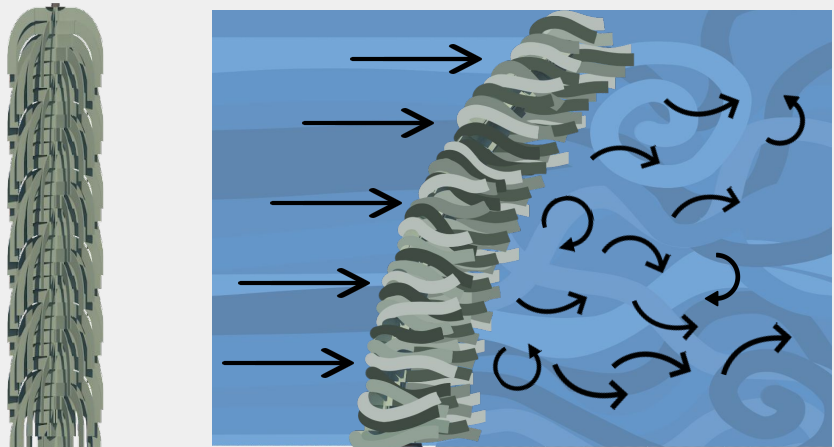
Application: Protection of Shore Communities and beaches

Market: Beach Communities, Resorts, Municipalities . Marketed through trade shows & direct sales.

Innovation: Can be deployed when, where and how long needed

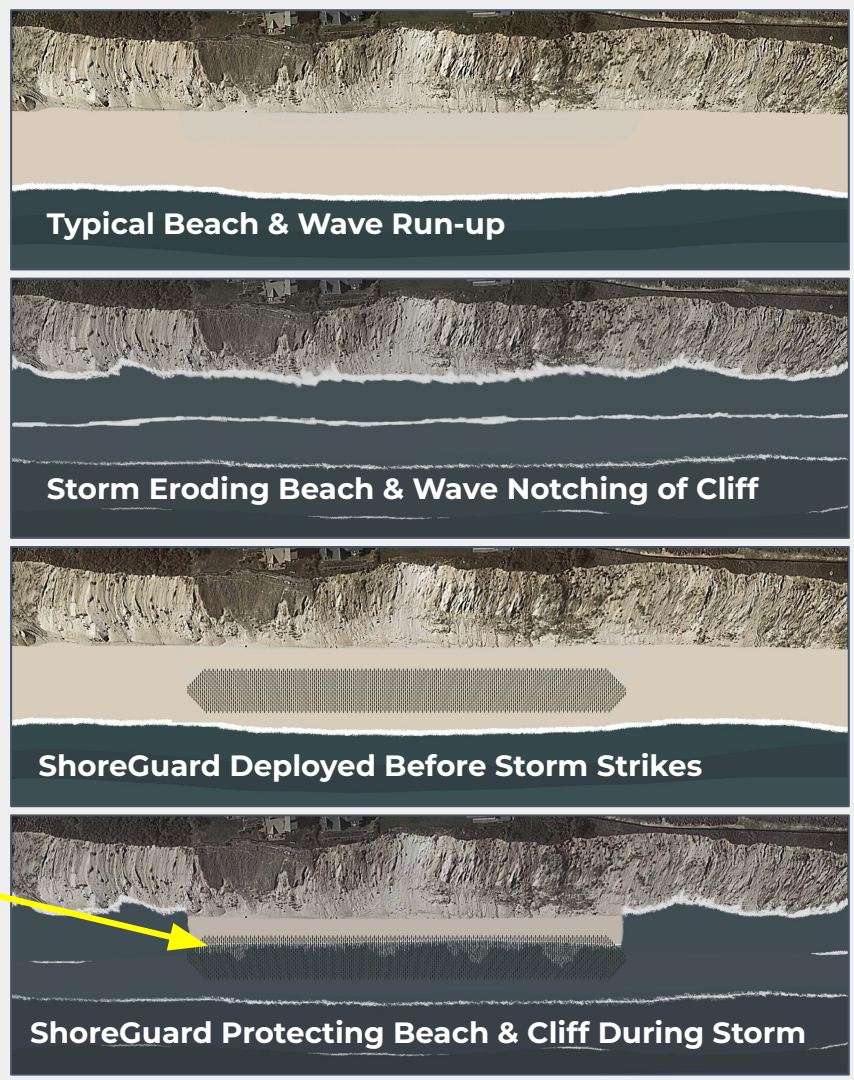
Competitive Product: Coir Logs, Sandbags, Hard Structures

ShoreGuard cont.



A single unit before wave engagement

A unit encountering a wave disrupts a modest amount of wave energy. Enough units can tame nature & mitigate episodic erosion



MarshGuard

CTC's MarshGuard product line would be utilized in the restoration of wetland, estuarine, marine and fluvial ecosystems.

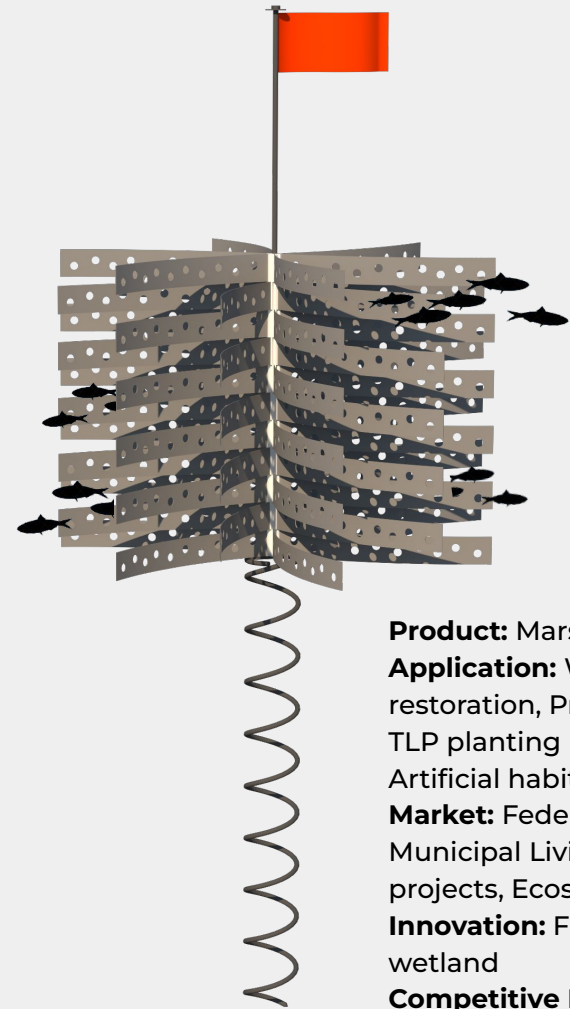
Artificial Reef Habitat : Each device contains over two hundred "slots" where nektonic species would obtain habitat greater than any other means.

A large quantity of larval, juvenile and adult organisms will re-enter the ecosystem, correcting critical balances.

Erosion/Surge Mitigation: MarshGuard devices function as absorptive wave-breakers controlling wake and storm erosion.

Sediment Deposition: Devices slow water currents resulting in deposition. Elevated sediment increases positive outcomes for mangrove forest expansion.

Planting Projects: MarshGuard protects new plantings until they stabilize



Product: MarshGuard
Application: Wetland restoration, Protection of TLP planting projects, Artificial habitat
Market: Federal, State and Municipal Living Shoreline projects, Ecosystem support
Innovation: First Artificial wetland
Competitive Product: Fencing



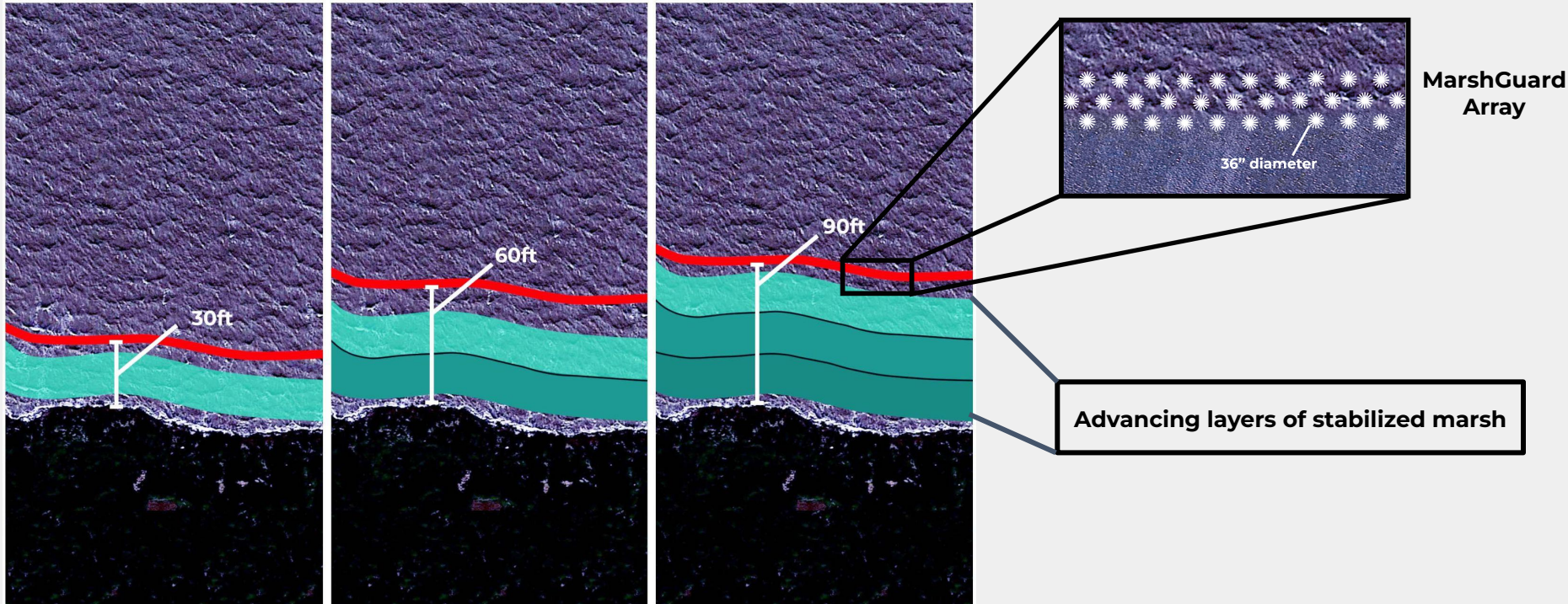
MarshGuard deployed with **The US Fish & Wildlife Service**, to heal a shore blow-out at Lake Pontchartrain, caused by Hurricane Ida.

MarshGuard cont.

Wetland restoration efforts are vastly improved by sheltering new marsh grass plugs. Wave edge erosion & boat wakes work plugs out before root systems can stabilize.

MarshGuard units would protect a field of new plug plantings. Once root systems stabilize survival rates soar. Then the **MarshGuard** array can be repositioned and a new field planted.

Because **MarshGuard** devices are easily removed and reinstalled, this innovative system of controlled wetland building is economical, feasible and environmentally nondisruptive.



Dune Topography Control

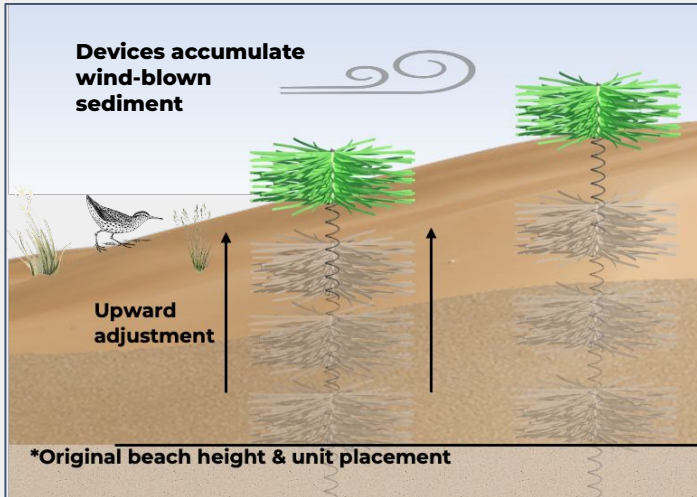
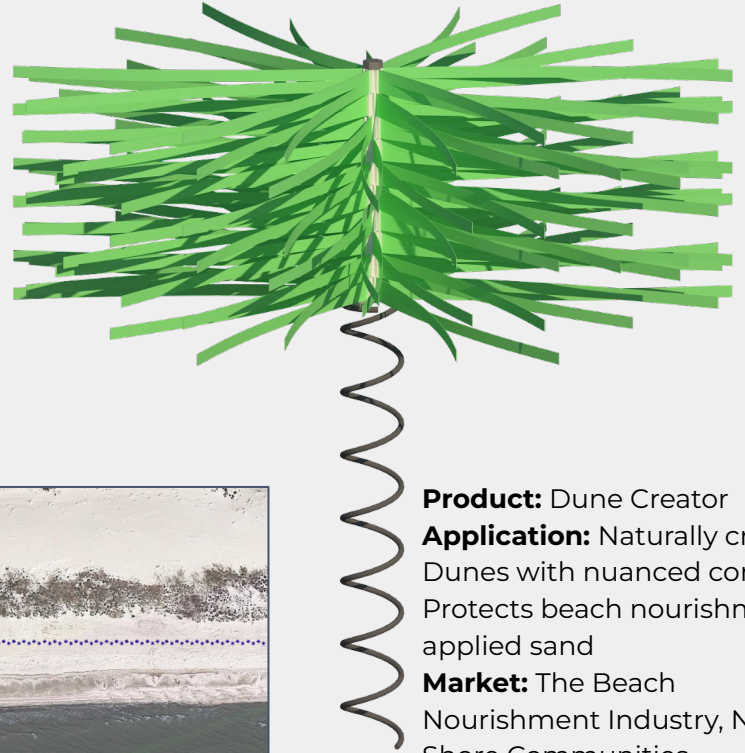
CTC's dune control technology offers dune building control & protection from erosion.

- Builds and shapes dunes in a controlled manner
- Protects sand that has been applied during beach nourishment.

Beach nourishment" is the replacement of lost sand by applying sand from other sources, which can be unstable for weeks and is prone to being eroded, some losing most or all the applied sand in a single storm event.

CTC dune devices can be deployed to protect re-sanded beaches until the new sand stabilizes, acting as an insurance policy, both for the need to preserve the re-sanding, and hedge against project failure.

Dunes are often desired in sensitive areas, such as nesting sites. DuneGuard provides the ability to create dunes in a non-disruptive and naturally accumulative manner.



Deployment Map for the
Cameron Parish Coastal Zone
Administration Project -
Gulf Coast, USA

Product: Dune Creator

Application: Naturally creates
Dunes with nuanced control
Protects beach nourishment
applied sand

Market: The Beach
Nourishment Industry, NGOs,
Shore Communities

Innovation: Can be adjusted
in-field to sculpt and create
dunes of desired height.
Nondisruptive

Competitive Product: Sand
Fencing

Oyster Reef Spat Collector

Oysters are powerful tools for restoring ecosystems, reducing pathogens & turbidity, while providing food for valuable fish stocks.

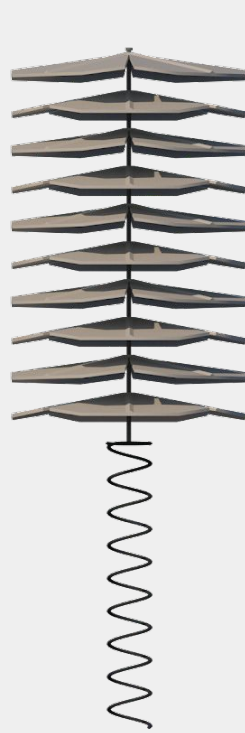
A single oyster filter-cleans 36 gallons of water per day.

Oyster reefs buffer storm surge erosion and flooding.

Our Spat Collector products passively harvests wild oyster spat.

Once colonized they can be *easily relocated* to new areas where water filtering or reestablishment of wild oyster populations is desired

This versatility of this system allows will be game changer.



Once colonized, relocated collectors naturally spawn, recolonizing depleted ecosystems



Product: Oyster Spat Collector

Application: Passively harvests wild oyster spat & is relocatable

Market: Ecosystem, Sustenance, Remediation and Living Shoreline projects

Innovation: The only oyster reef that can be easily moved and repositioned once seeded

Competitive Product: None



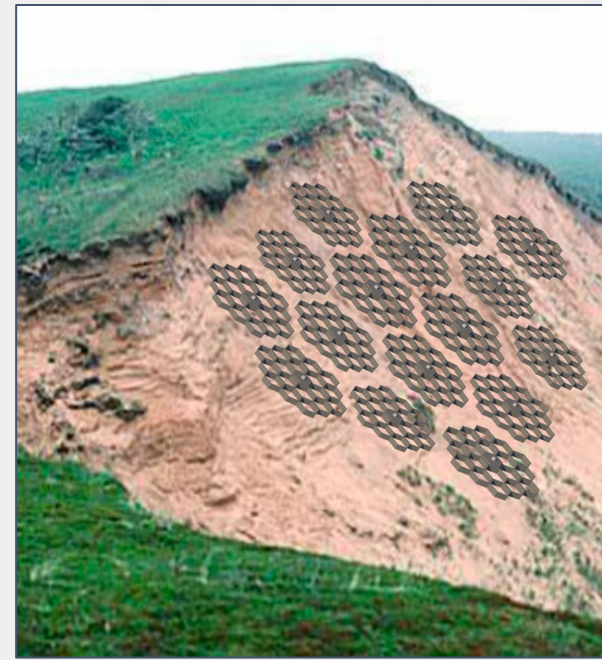
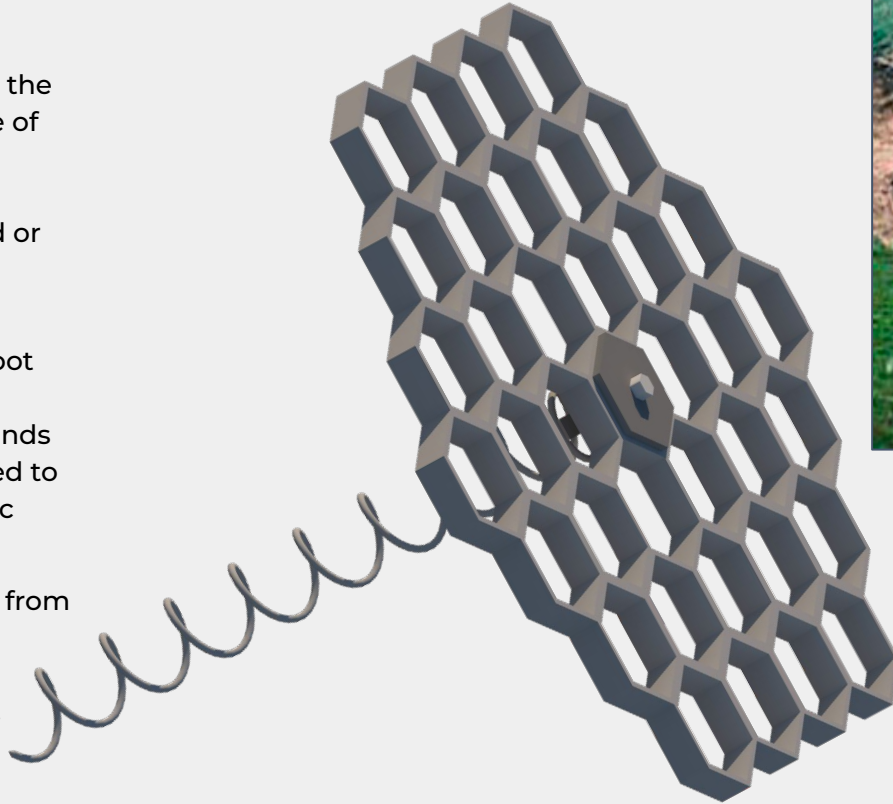
Cliff Stabilization Systems

Cliff Stabilization Systems are engineered to stabilize loose-morphology bluffs and mitigate erosion at elevation transitions.

Product would be driven into the escarpment, forming a lattice of cubbies. The completed installation could be slurry hydroseeded, sown with seed or plugs, or left to be naturally vegetated .

Sprouting flora would send root systems into the sediment, binding the loose matrix. Blends of vegetation can be fashioned to also provide bird, butterfly, etc habitat and sustenance.

The frames can be fabricated from biodegradable or mycelium plastics, allowing the frame structure to fully decompose.



Product: Cliff Stabilization System

Market: Private and public end-users

Advancement: Provides niches for growing medium for vegetation to take root, stabilizing the cliff face.

Competitive Product: Rock-fall netting

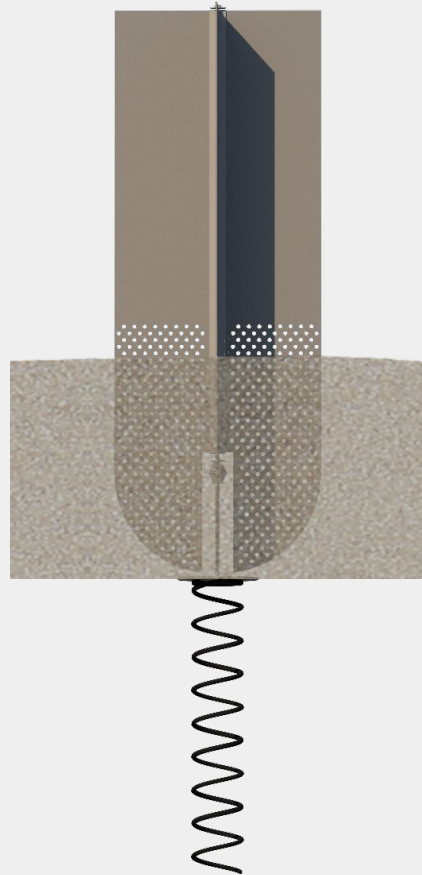
Sediment Transport Control

Control of sediment transport is a trillion dollar global market.

- Dredging to keep harbors and shipping lanes passable is a continuous process.
- Sediment Diversion projects are massive work projects to divert sediment and build back land. A single project, the 2017 Coastal Master Plan is funded at \$51 Billion.

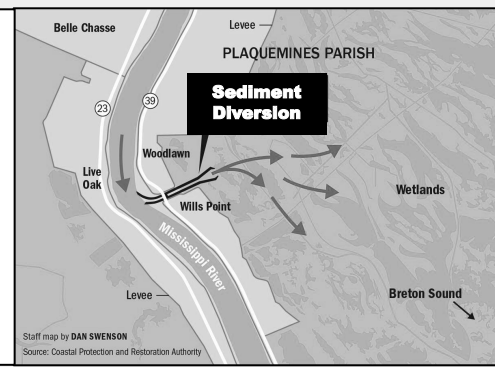
CTC technologies are engineered to control sediment transport. A field of devices would accumulate high loads of sediment at slow water flow rates, and tip to release them when fast-flow rates trigger floodgates to open.

This diverse product line introduces innovative devices that will revolutionize the control of complex fluvial dynamics, potentially reducing projects budgets by billions of dollars.

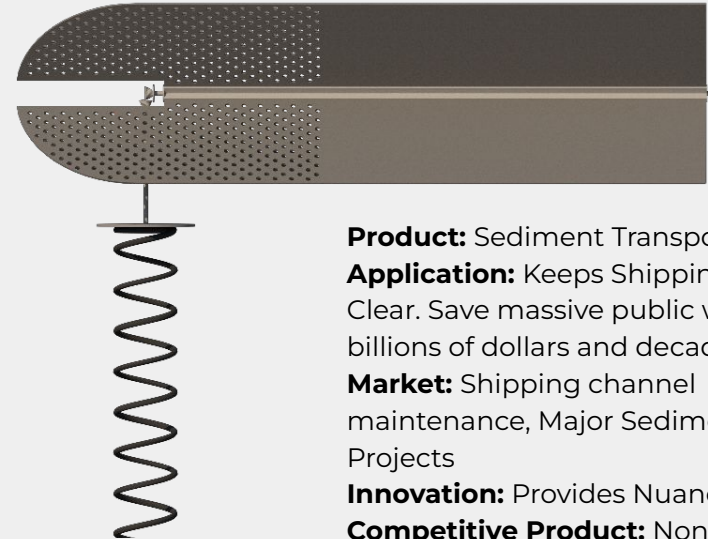


Sediment Diversion projects redirect sediments formed at point bars. When water flow rates increase, sediment is swept into opened floodgates to feed intended basins.

CTC's Sediment Transport system would increase sediment loads, and/or allow point bars to be artificially formed where better suited.



Fast water flow tips device & releases accrued sediment load into floodgates



Product: Sediment Transport Control
Application: Keeps Shipping Lanes Clear. Save massive public work projects billions of dollars and decades of time
Market: Shipping channel maintenance, Major Sediment Diversion Projects
Innovation: Provides Nuanced Control
Competitive Product: None

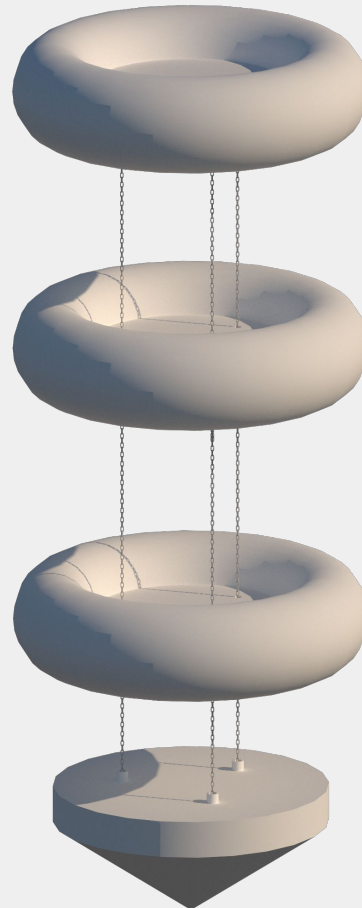
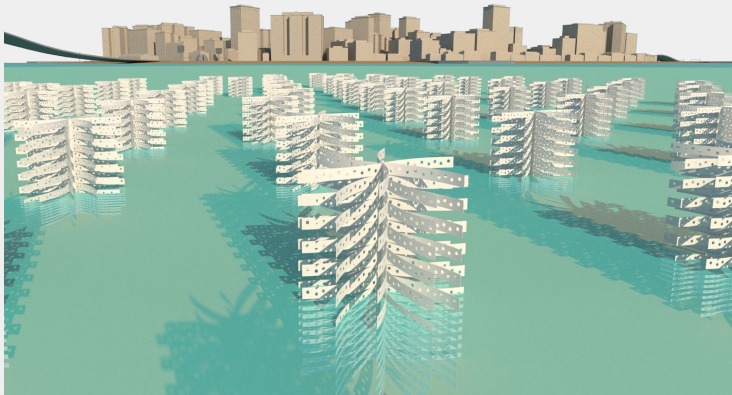
Large Systems - City Defense

CTC's Large Systems are designed as permanent deployments. The wave modulating properties of kelp forests are harnessed in large structures engineered to impact the entire water column.

These structures can be fabricated from calcium carbonate infused materials which are attractive to biota, including water-filtering oysters and mussels.

These massive floating reefs would ring cities and providing surge protection, remediation of polluted waters and habitat creation.

Floating Reef habitat would increase overall species mass helping to re-establishing predator/prey balance.



Product: Large Systems - City Defense

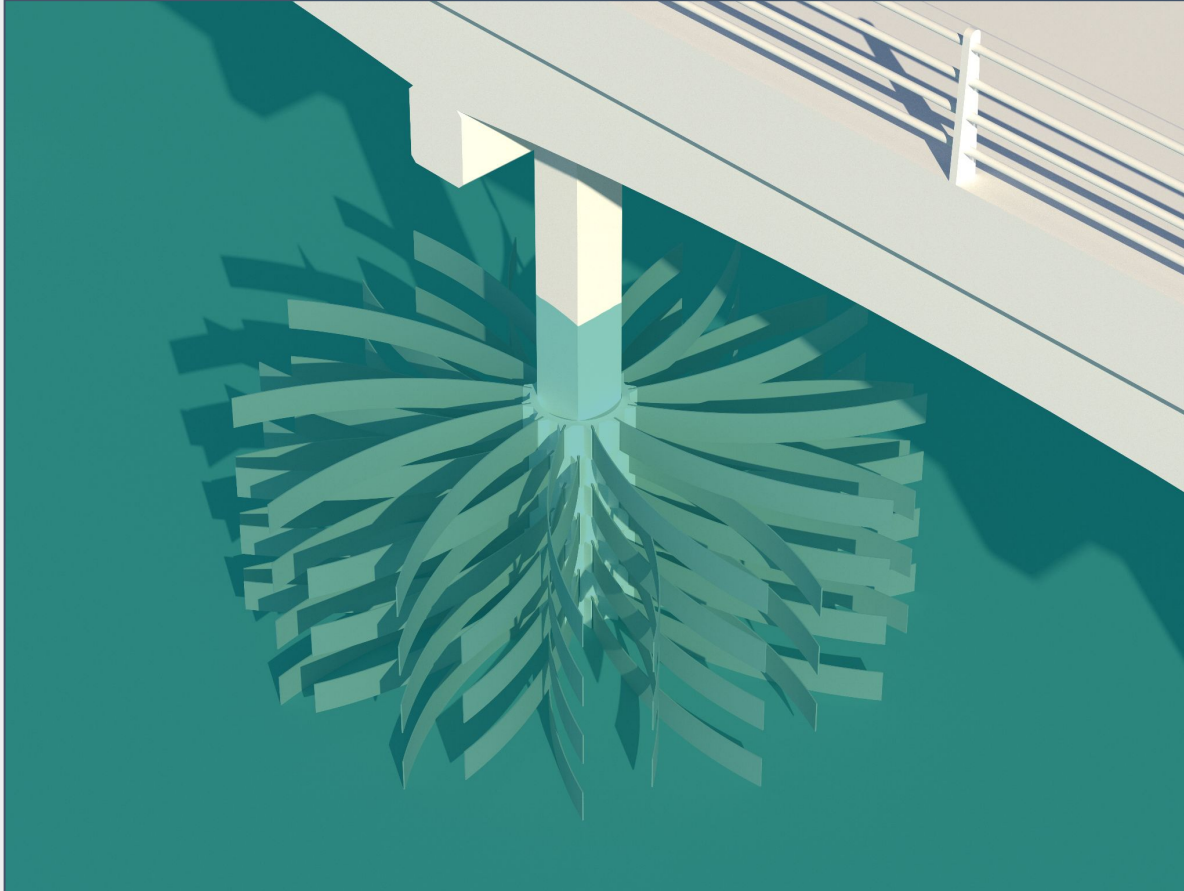
Application: Large scale coastal storm surge defense systems

Market: Licensing, Civil Engineering Firms. Worldwide Governments

Innovation: Innovative in Comprehension

Competitive Product: Hard Structures

Bridge Scour Prevention



Structural Scour Control

60% of catastrophic structural collapse is due to hydrodynamic scour.

Structural Scour Control technology mitigates hydrodynamic scouring of bridge foundations, fluvial or marine structural footings, turbine and drilling platforms, etc.

Flexible protrusions absorb and disrupt water flow.

Product: Bridge Scour Prevention

Application: Mitigation of Catastrophic Structural failure

Market: Licensing to Heavy & Civil Engineering Industry

Innovation: Based on soft hydrodynamic force dissipation

Competitive Product: Riprap, gabions, plates

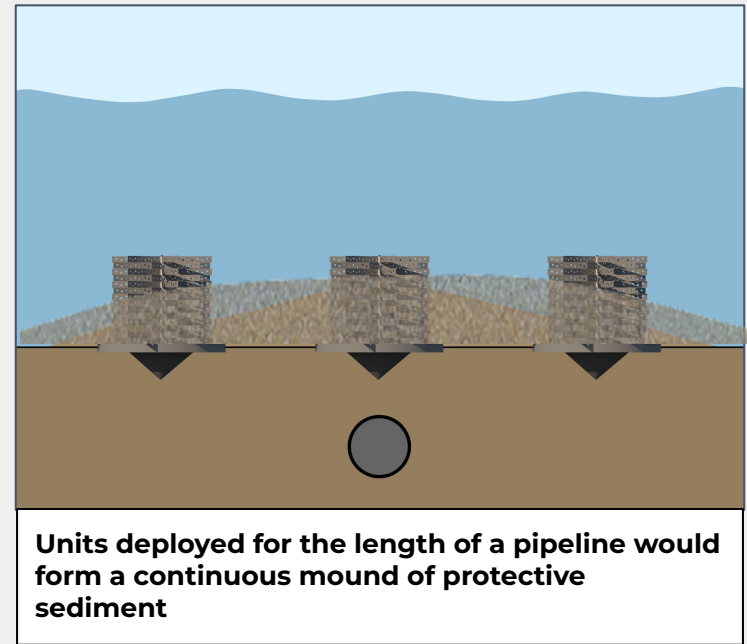
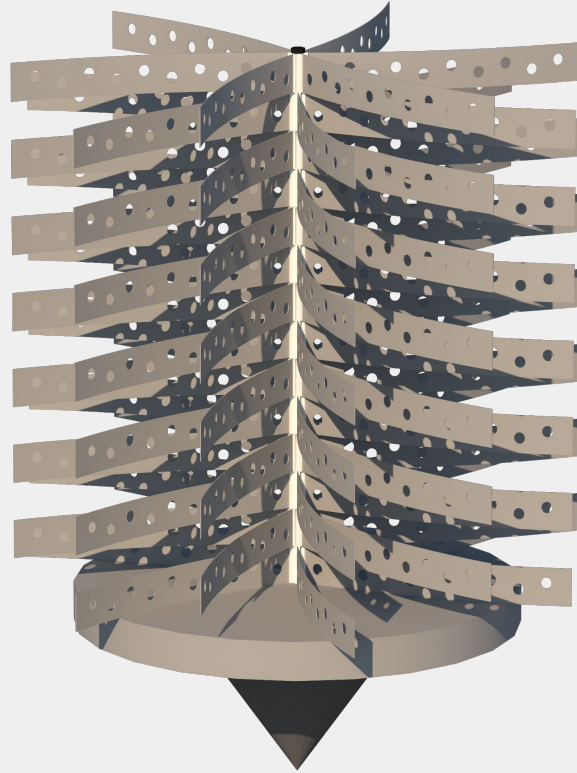
Seabed Scour Control

Energy and Data providers are mandated to keep pipelines & cables beneath the seabed at set depths.

Hydrodynamic Scouring exposes companies to liability and causes damage to their assets.

A single ruptured pipeline can cost hundreds of millions of dollars in fines & remediation costs while causing extensive environmental damages.

Deployed by ship or barge, these devices passively embed to mitigate scour unearthing and rupturing of these conduits.



Product: Seabed Scour Control

Application: Prevention of pipeline & cable scour unearthing

Market: Licensing, Energy & Data Providers, Insurers

Innovation: Deployed from ships or barges. Soft erosion system.

Competitive Products: None