



# Sandi Technologies

The Flow and Erosion Control System  
“FECS”



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- **Today's presentation is about a new technological advancement in environmental preservation.**
- **One that is effective, economical and most importantly, one that enhances safer living conditions .**



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**FECS is Effective**



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- **The Flow and Erosion Control System** is the *latest advancement* in breakwater technology, and its' design is based on several decades of research and development performed by the US Army Corps. of Engineers.
- The US Army Corps. has been maintaining breakwaters since the early 1900's. For more information, please visit their website at:

[http://www.erdc.usace.army.mil/pls/erdcpub/www\\_welcome.navigation\\_page?tmp\\_next\\_page=-9999](http://www.erdc.usace.army.mil/pls/erdcpub/www_welcome.navigation_page?tmp_next_page=-9999)



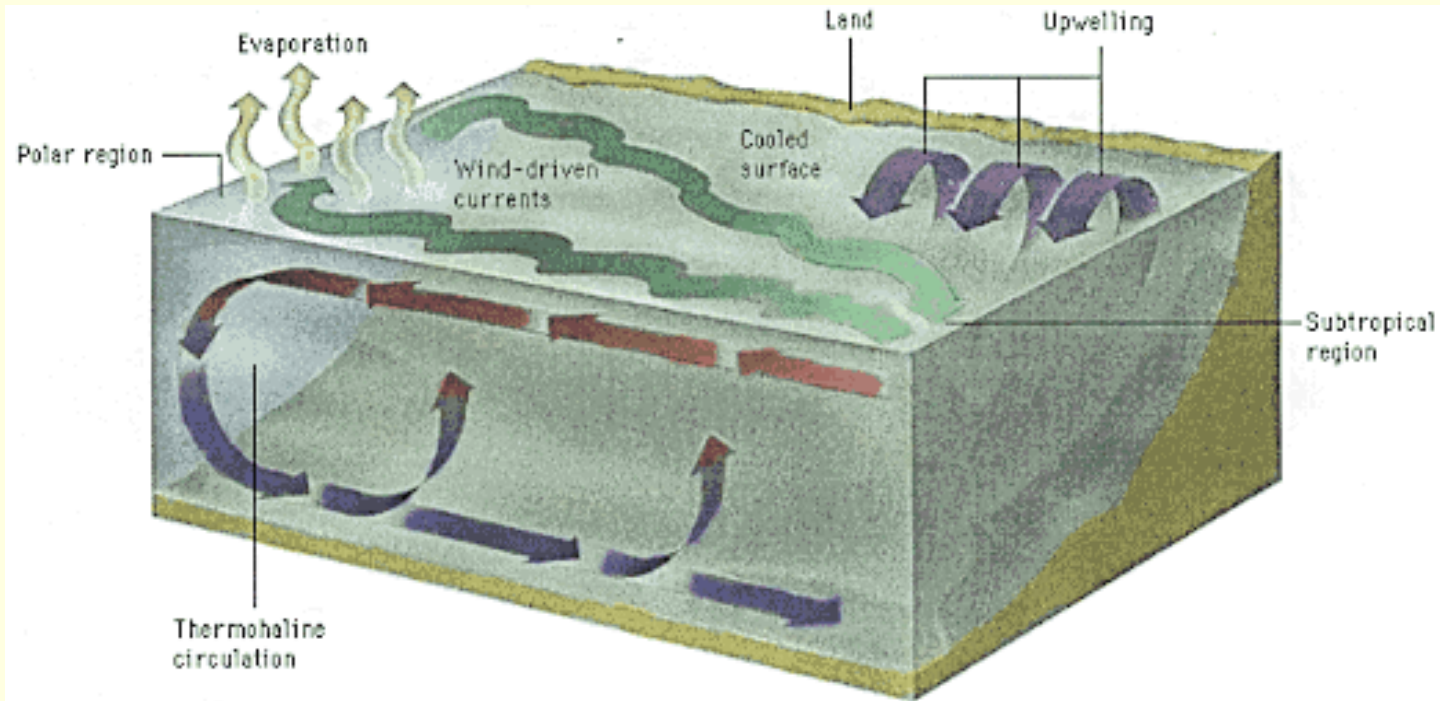
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- Currents can make and break the shore, depending on the circumstances.
- There are two main types of currents that shape the beaches: nearshore and longshore currents.
- The FECS's advanced technology allows for even distribution of sand along the shoreline without interfering with the cross-current distribution of sand.



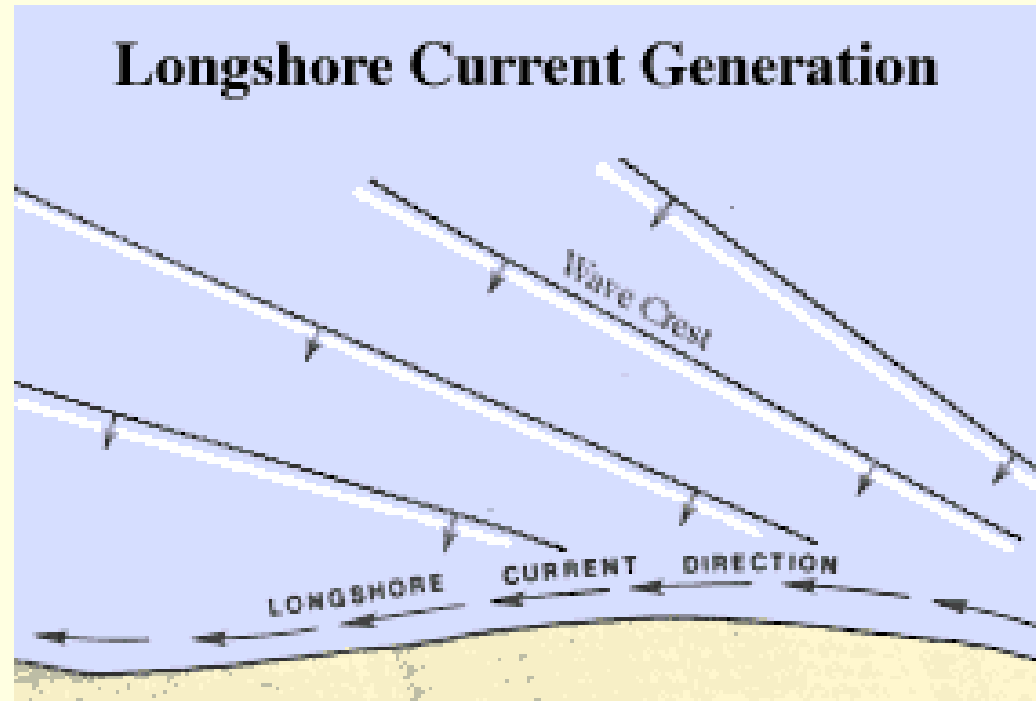
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- Nearshore currents develop when waves hit the shoreline almost totally perpendicular. The water strikes the beach and then has to escape somewhere. The water tends to flow in narrow streams away from the beach. These currents are sometimes called rip-tides and can be extremely dangerous.



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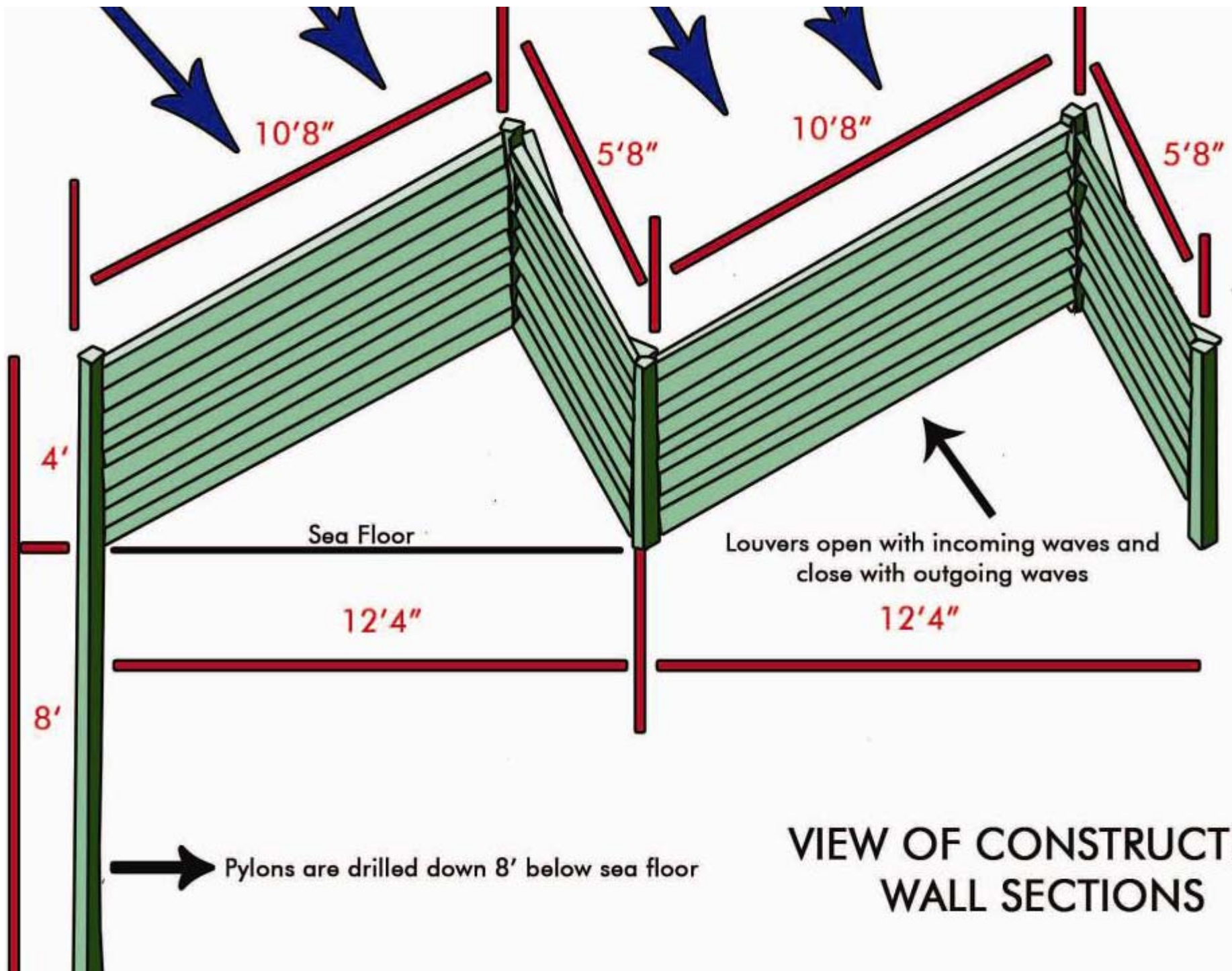
- Long shore currents develop when the waves are not at a 90 degree angle to the beach. Longshore currents develop on long and straight beaches. These currents carry loose grains of sand down the shore and deposit them in slow moving areas.



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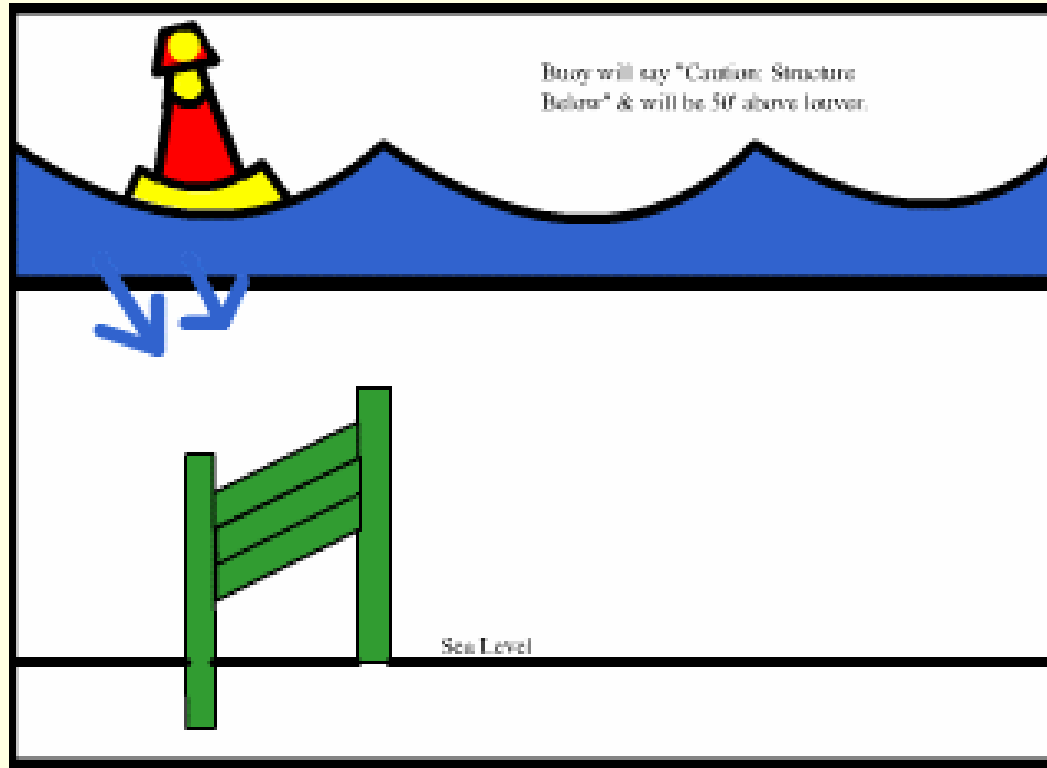
- **The Flow and Erosion Control System is designed to work with nature, using these currents to its' advantage.**
- FECS's primary function is to allow wave action to replenish sand towards the shoreline. It accomplishes this by trapping new and existing sand in the shallows, and slowing the outgoing tides.
- FECS could add several feet of sandy shoreline a year to extend our beautiful beaches.



**VIEW OF CONSTRUCTED WALL SECTIONS**



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## **FECS is Economical**



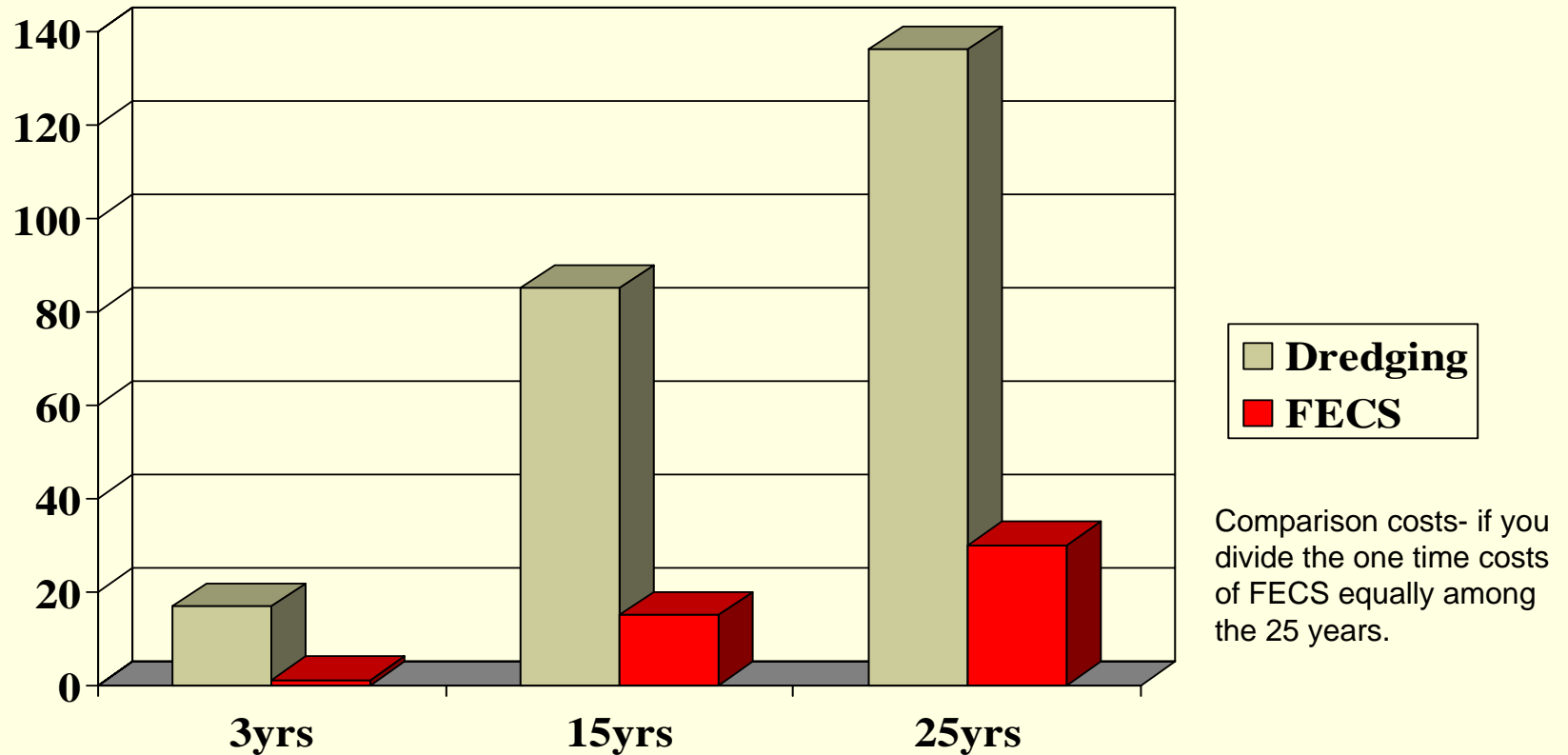
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- FECS is very cost effective. It can be installed at 20% of the cost of dredging, and unlike dredging, FECS is **NOT** a temporary solution. FECS has an estimated life span of 25 years, and during this life span, it will eliminate the yearly cost that has been a constant expense with dredging.
- It will also help decrease the amount of money the Federal Government and the insurance industry spends every year due to shore erosion and flooding.



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**According to FL NE Coast City Officials dredging costs about 17 million every three years for 10 miles of coastline; however, FECS would only have a one time cost of less than \$30 million for every 25 years. That's \$136 million versus \$30 million!**



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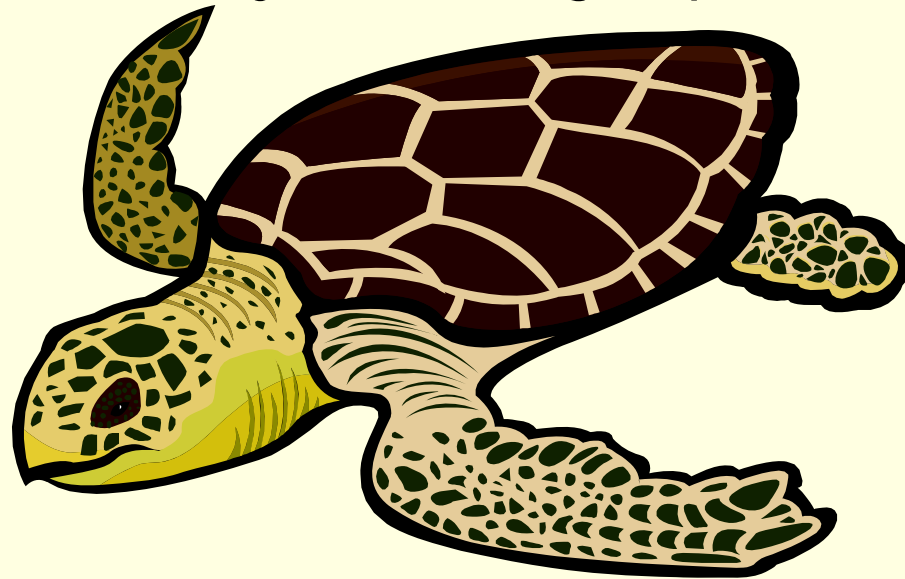
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**FECS is Environmentally  
Friendly**



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- The system's structure is made of carbon steel with Coal Tar Epoxy coating which is non-hazardous according to OSHA.
- The structure also allows sea animals like turtles to pass over the louvers, so their lives should not be disrupted from this system being in place.





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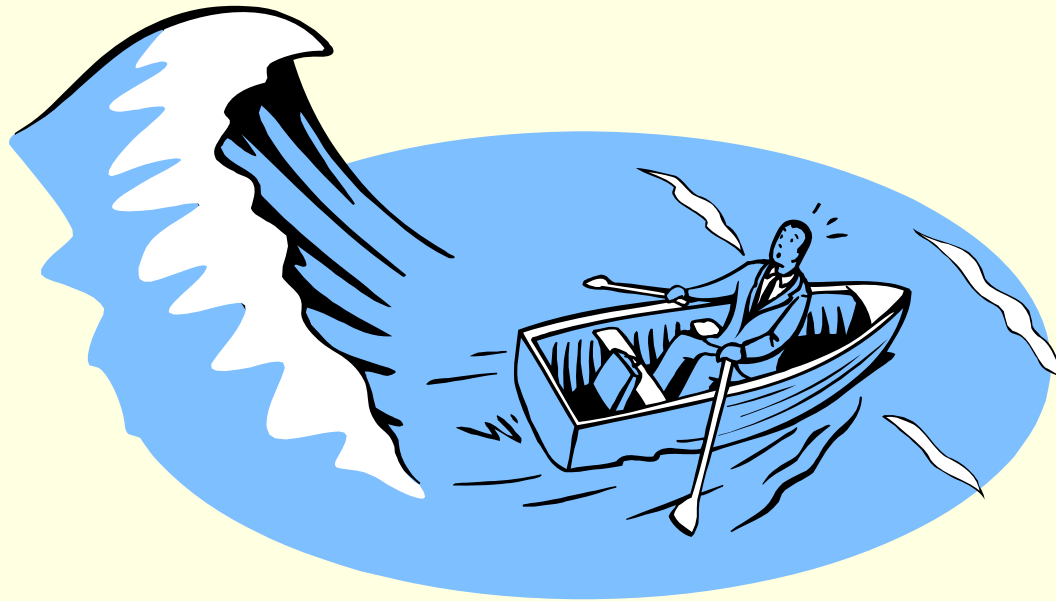
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**F ECS is also a Preventative  
for Natural Disasters**



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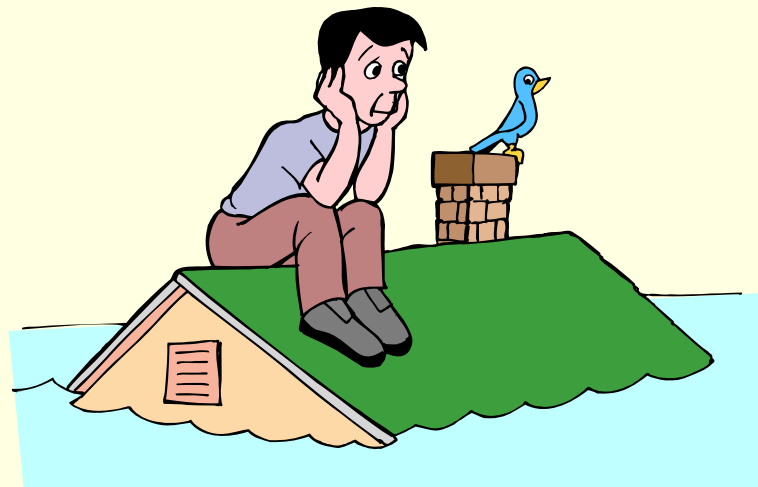


- It will have a calming effect on the rip tides that claim many lives each year.



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- Flooding would also be cut back substantially because of the build up of the shoreline. (During a storm, accelerated wave action could enhance the flow and deposit of sand towards the shoreline along the structure.)





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**FECS is the Future for  
Breakwater Technology**