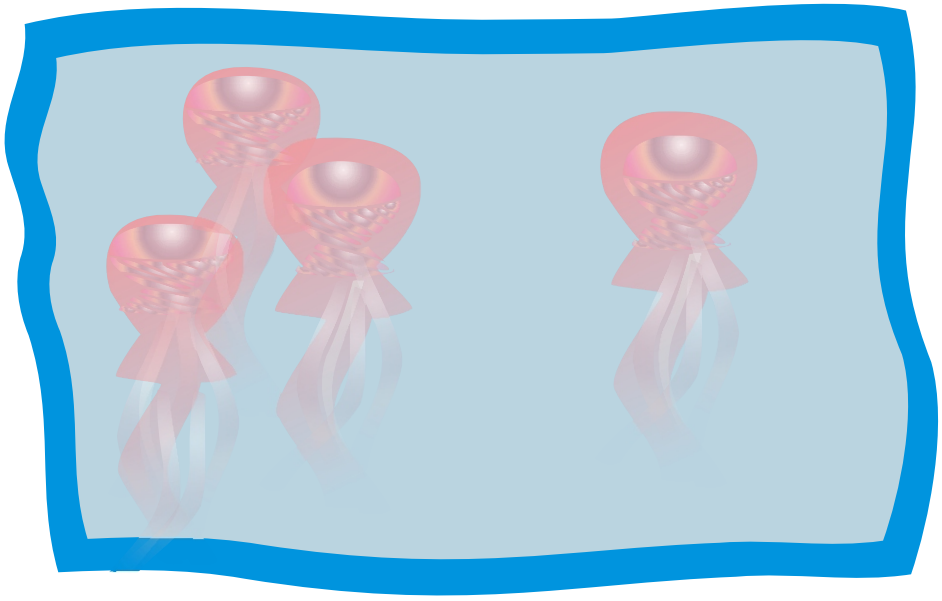
Our Models

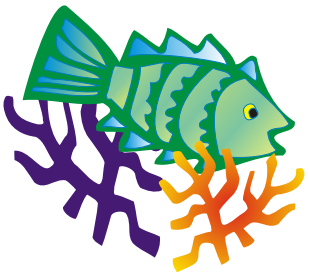
1) Hydroids save whales.

2) Oil spill recovery system.

3) Corn packaged with fertilizer.

4) Another way to package fertilizer with corn.

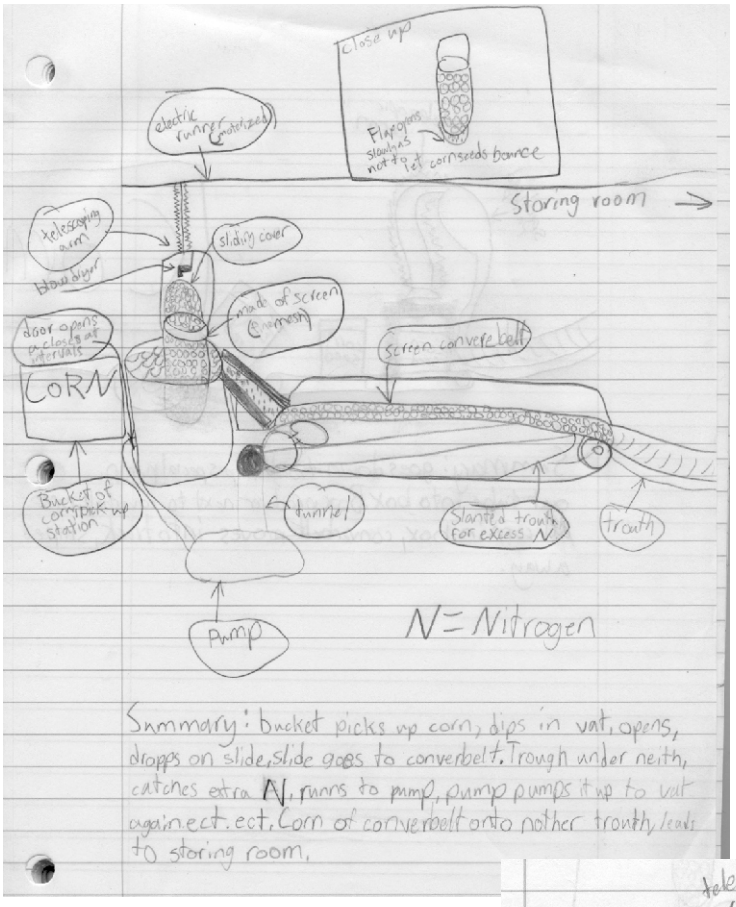


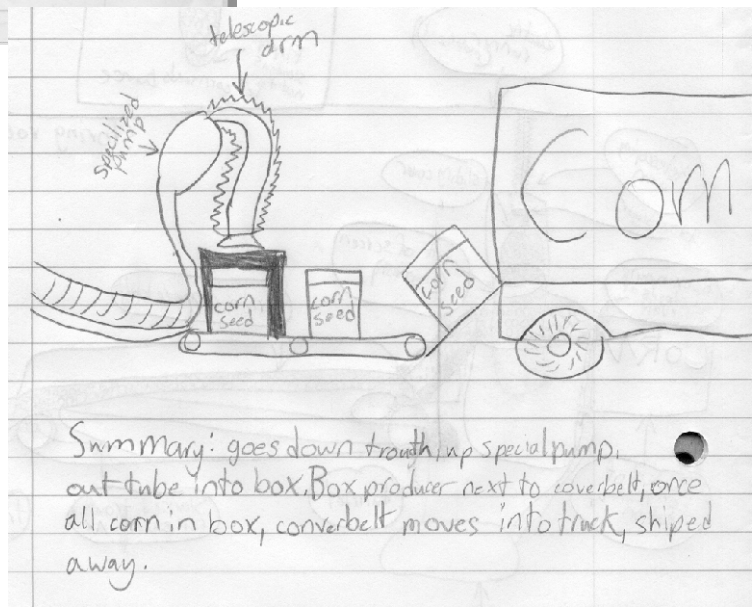


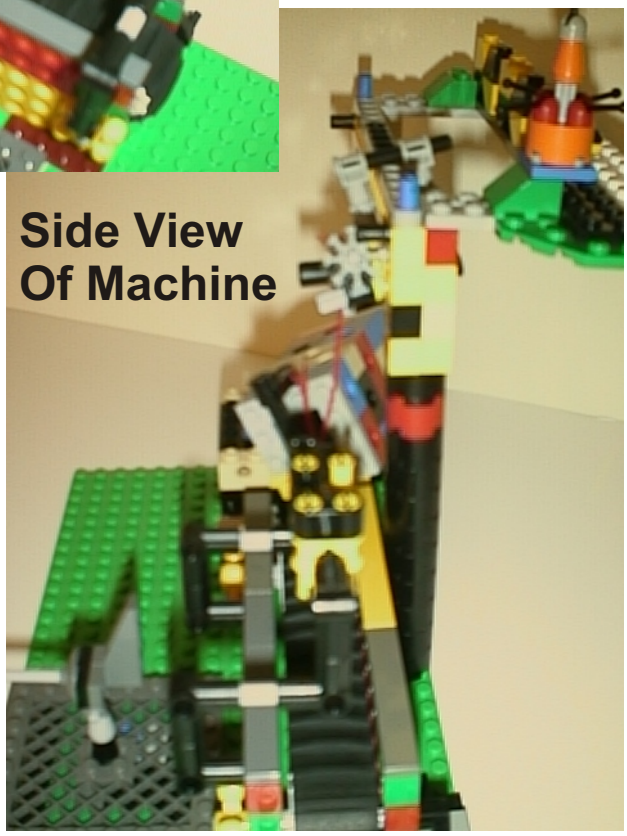
Problem: Fertilizer Run-off Contributes to Dead Zone Formation

Solution: Package Corn Seeds With Fertilizer Around Them

Additional Benefits: Reduces costs of farming. Less fuel is used to fertilize since it happens when seeds are planted; less carbon dioxide is released in the atmosphere.







Fast Facts:
Corn Stalk Nitrate Concentrations:

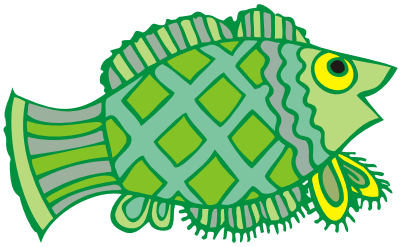
Low: (Less than 250 ppm) Likely that nitrogen was deficient and limited yield

Marginal: (250 – 700 ppm) Possible that nitrogen deficiency limited yield

Optimal: (700 – 2000 ppm) Yield was not limited by nitrogen

Excess: (> 2000 ppm) Nitrogen supply was excessive

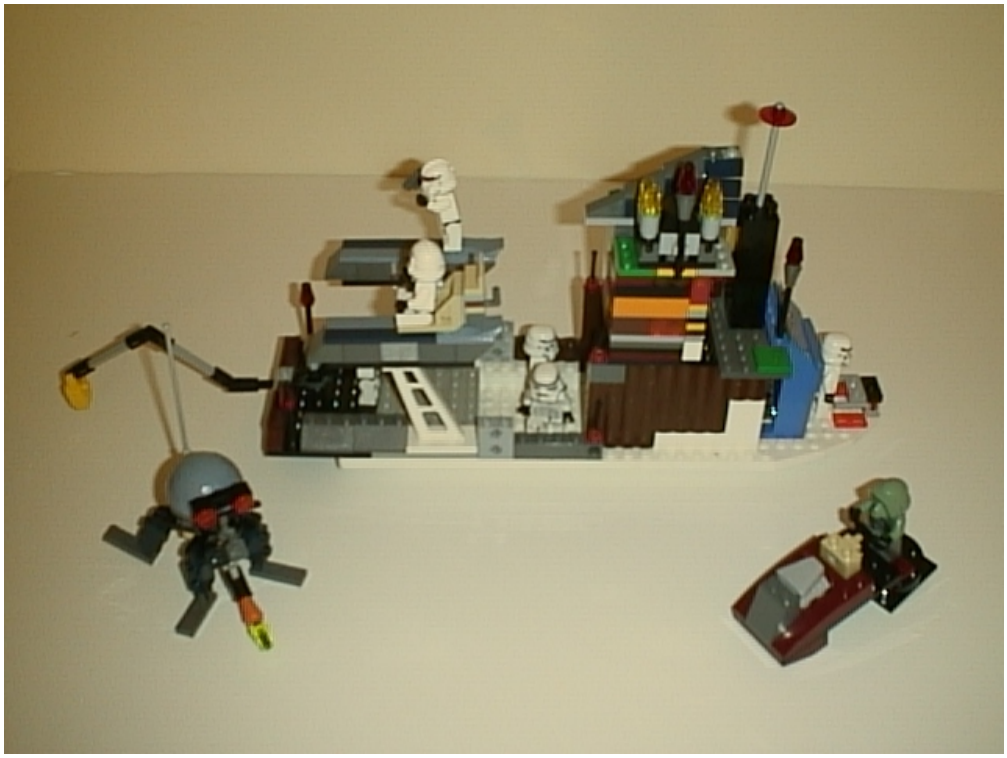
http://www.agviselabs.com/tech_art/cornstalk.php



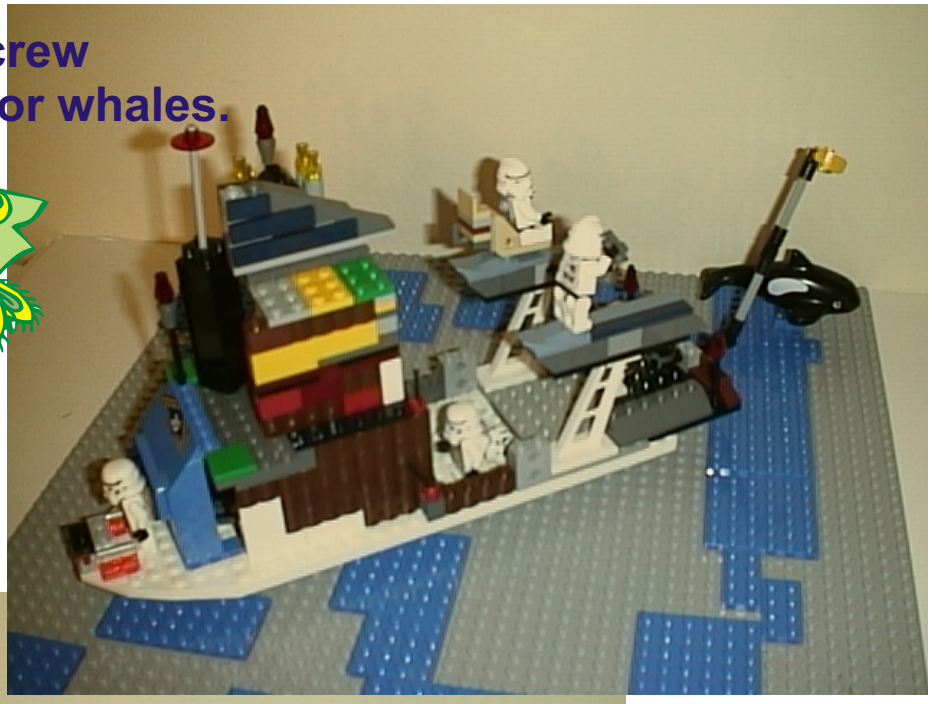
Problem: Whales are beaching themselves.

Solution: Hydroids, a robotic system that stimulates whales to change their course.

Additional Benefits: Additional information about whale health and activity is gathered for monitoring whale populations.

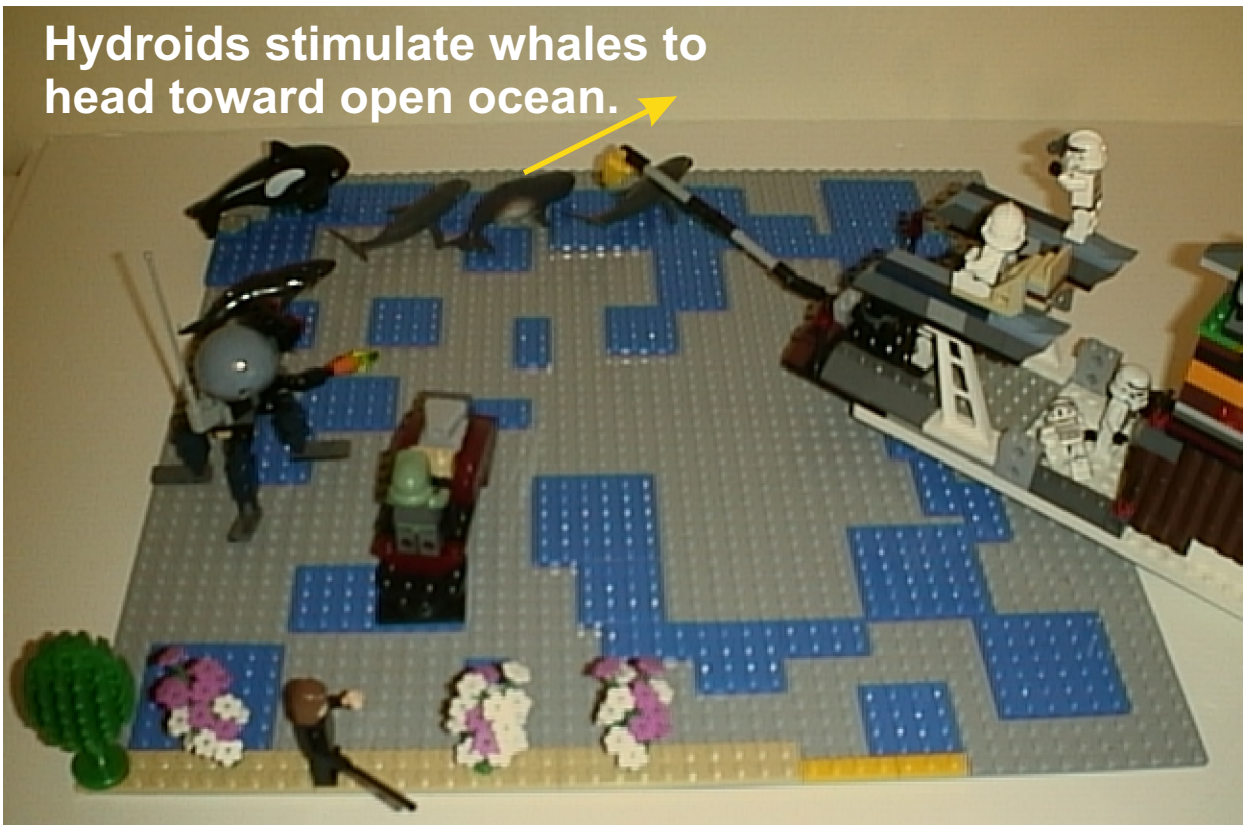


The Hydroid crew
is searching for whales.



Manned hydroid
observes a whale.


OH NO! A pod of whales is
headed straight for the beach!


Hydroids stimulate whales to
head toward open ocean.

Problem: Fertilizer run-off contributes to dead zone formation, yet corn fuel could replace fossil fuels.

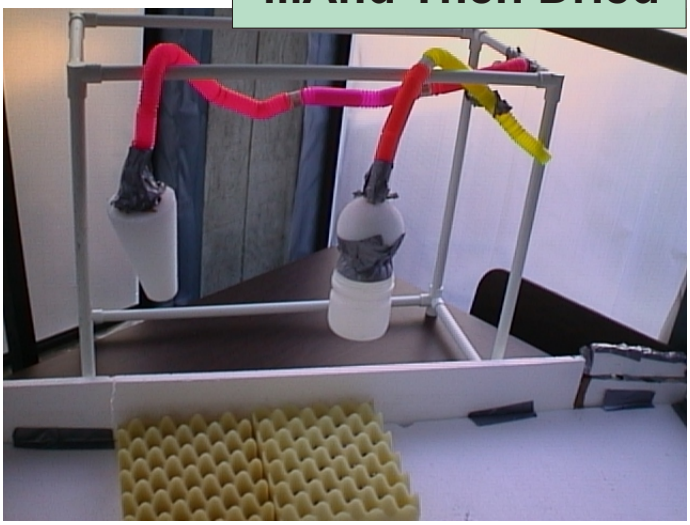
Solution: Package Corn Seeds With Fertilizer Around Them

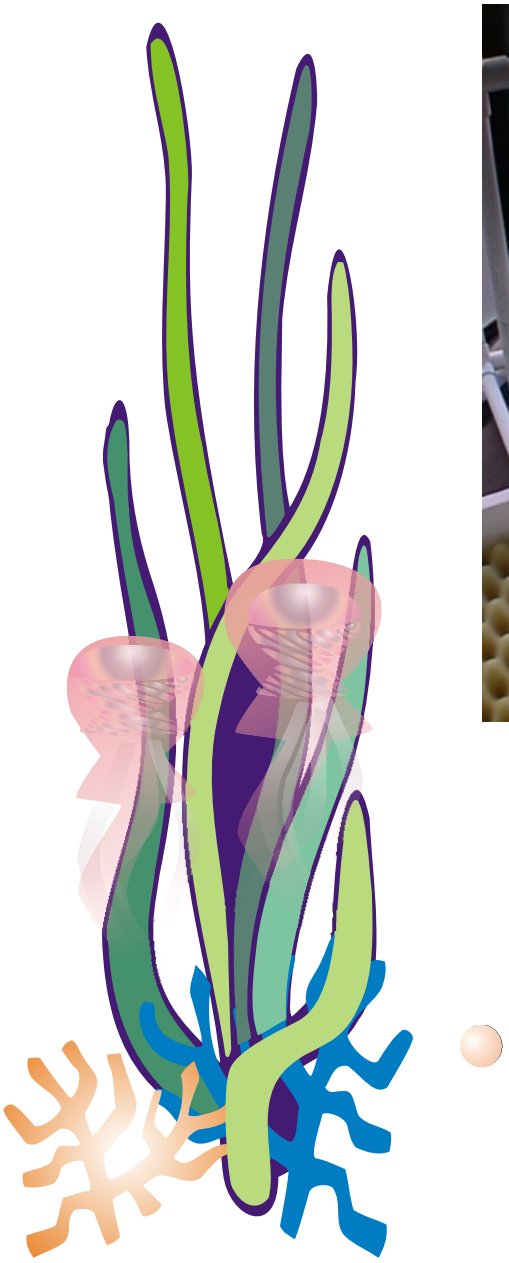
Additional Benefits: Reduces costs of farming, maybe making it economical to use corn for fuel.

Corn seeds are placed in trays.

Fertilizer Mixture Is Sprayed Onto Seeds

...And Then Dried



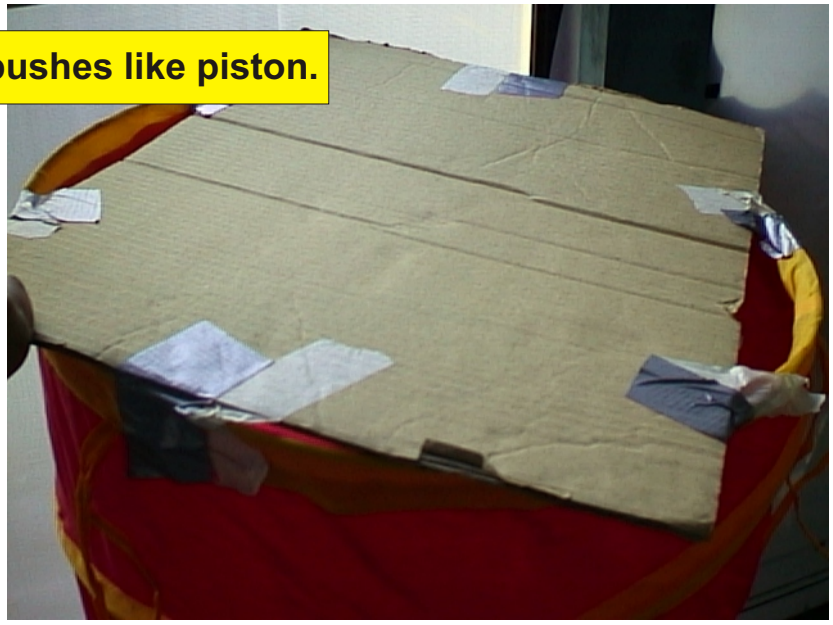


Problem: Oil Spills are costly to clean-up but some toxic, long-lived spills involving diesel oil have to be cleaned.

Solution: Oil spill and recovery system minimizes impact on marine life by filtering it out. The system collects fuel which can be transported away from the contaminated area. The system does not use additional chemicals.

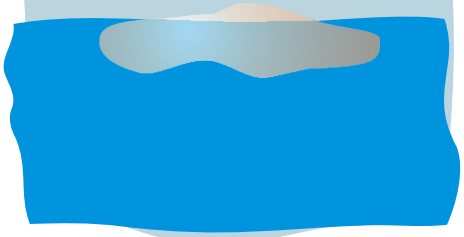
Additional Benefits: Recovered oil is separated from other things and maybe could be recovered for fuel use.

Solid top pushes like piston.

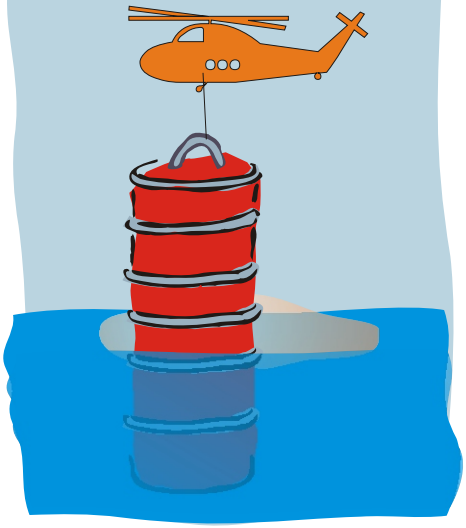


Bottom filters out animals then becomes solid for transport.

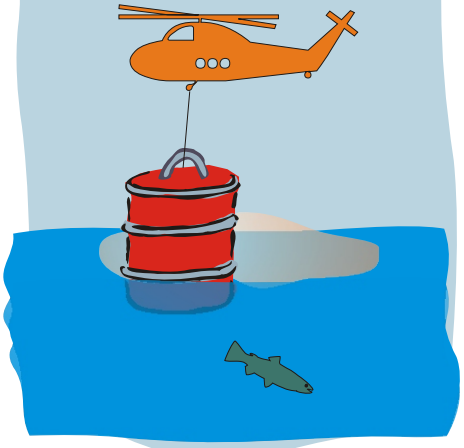
Oil Spill!



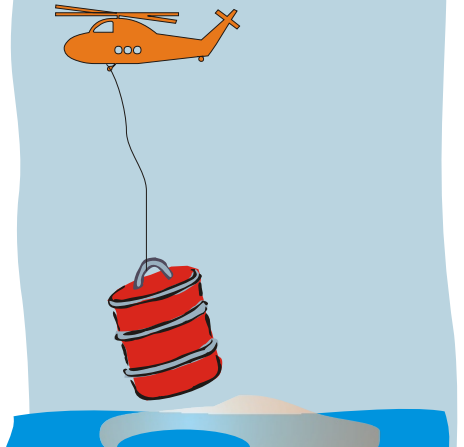
Cookie Cutter
Core Driller



Piston Pushes
Out the Fishes



Oil Is Flown To
Recycle Center



Fully extended, the system is dropped into the water through the oil slick. It drills down as if taking a core sample. Then compresses like a piston to get out the animal life.

Once full of oil, the system is hooked to a helicopter that lifts and carries it to a recycle center.