



GHOST FISHING

Derelict Lobster Trap Removal Project



American Lobster
Homarus americanus

Since 2010, Cornell Cooperative Extension's (CCE) Marine Program has conducted several research projects to remove derelict/abandoned lobster traps in the Long Island Sound (LIS) at the ports of Mattituck, Mount Sinai, and Northport. The successes of the projects were manifested through the cooperation of the lobster industry through the completion of surveys, planning sessions of operation field plans, and executing the fieldwork. These programs proved that a substantial quantity of derelict lobster traps have accumulated in the LIS and need to be removed.



Removing abandoned lobster traps from the LIS



Ongoing projects at the ports of Northport, Mattituck, and Mount Sinai



These traps were recycled by Gershow Recycling

Long Island Sound Derelict Lobster Gear Assessment, Removal, and Prevention

These traps not only contribute to the ongoing problems associated with marine debris, a significant number of them are still catching lobsters and are thus adding to the "fishing effort" for lobsters in LIS. This is known as "ghost fishing". CCE data shows that 20% of the derelict lobster traps recovered had one or more lobsters in them and of this 20%, 4% of the lobsters were dead. To date, over 20,000 derelict lobster traps have been recovered from the New York waters of the LIS. This is equivalent to an estimated total

weight of 830,500 pounds. As a result of these projects, 376.7 metric tons of derelict lobster traps have been removed from the LIS. These traps were recycled or returned to their owners. The burnable debris from the derelict lobster traps is converted into renewable energy at the Covanta Energy "energy from waste" recovery facility. In 2017, CCE was awarded funding through the NOAA Community-based Marine Debris Removal Program to continue the derelict lobster trap removal effort.



GENERAL OVERVIEW OF LOBSTER TRAPS IN THE LIS

What are Lobster Traps?

Traps are common practice for catching the American lobster.



Traps are designed with a door that allows lobsters to enter but not exit the trap.



Fisherman set traps and then check on them periodically to collect their catch. Sometimes they are abandoned or forgotten and this is a problem because these become marine debris and can lead to ghost fishing.



Why does fishing gear get abandoned?

There are many reasons fishermen and baymen abandon their gear:

- Poor weather conditions
- Waterway traffic
- Gear conflicts with other vessels
- Bottom topography
- Gear overuse
- Forgetfulness

Abandoned lobster traps are pulled up from the bottom of the LIS where they were left years ago. These traps could be potentially **ghost fishing**, which refers to abandoned traps that continue to catch and kill marine life. This is a global problem and includes many different fishing gear, like nets, traps and pots, and, although less likely, longline and trawls.



- Over **20,000** derelict traps pulled out of the Long Island Sound
- **800,000 lbs** of marine debris removed from our local waters
- An estimate of **3,600 lobsters saved**

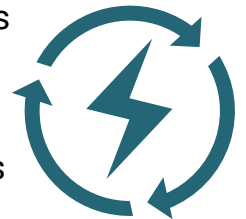


THE FATE OF LOBSTER TRAPS IN THE LIS

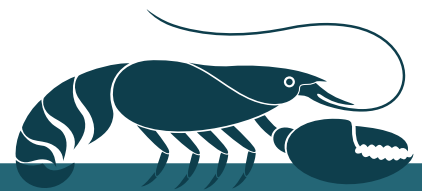


About 10% of the marine debris found in our oceans come from derelict fishing gear. It's ability to ghost fish, entangle, and smother habitats makes it problematic for ocean life. The removal of the gear is necessary for healthy oceans and ecosystems. Cornell Cooperative Extension Marine Program has been removing derelict lobster traps and collecting data on these collected traps for over eight years with the help of local lobstermen.

WHAT HAPPENS TO DERELICT TRAPS AFTER THEY ARE REMOVED? CCE's boats are not the final stop for the derelict traps pulled from the bottom of the LIS. Traps that are salvagable are returned to their owners whenever possible. Remaining traps are recycled. Metal components of the traps are removed and recycled at local facilities, while the rest of the trap is sent to Hempstead Covanta Energy facility to create renewable energy. This works to keep marine debris out of local landfills and create something valuable from abandoned traps.



LONG ISLAND SOUND



Long Island Sound sits between Long Island and Connecticut. This body of water was once home to the third largest Lobster Fishery in the United States. By the early 2000s, this lobstermen's paradise came to an end, the lobster fishery collapsed. These fishermen could no longer make a living and soon left to find other livelihoods, leaving much of their gear beind.



GHOST FISHING - THREATENING LOCAL SPECIES

The LIS lobster population collapsed years ago due to overfishing and has struggled to rebound because of climate change and runoff. For the few lobsters left, many are being caught or killed due to ghost fishing. **Ghost fishing not only continues to trap its targeted catch (lobsters) but also non-target species!** When a species that is not the intended catch is caught, it is called bycatch. Bycatch is problematic because this is often not accounted for in their fishing regulations and can negatively impact their population.



THE CONTINUOUS CYCLE Lobsters enter an abandoned trap, eat the bait that is in there, then die of starvation when they cannot escape and become the new bait for the trap. These traps continue to ghost fish not only lobsters but other local species as well. **Benthic organisms**, or animals that inhabit or live on or near the ocean floor, are more likely to be affected since they can easily crawl through the door and get trapped.

Local by-catch threatened by derelict lobster traps



Tautog (*Tautoga onitis*)
Common Name: Blackfish

Found in open water near rocky shoreline, shellfish beds, docks and artificial reefs. They migrate inshore during the spring and use their extremely strong jaws and teeth to feed on shellfish, crabs, and even barnacles. Blackfish grow very slowly, so when overfished their population is greatly threatened.

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Spider Crab (*Libinia spp.*)

They are non-threatening crabs that prefer shallow coastal waters. Known as decorator crabs because they decorate their shells.

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Oyster Toadfish (*Opsanus tau*)

Found mostly in rocky and near-shore waters, these fish thrive in oyster reefs. Their powerful jaws are made for crushing shellfish.

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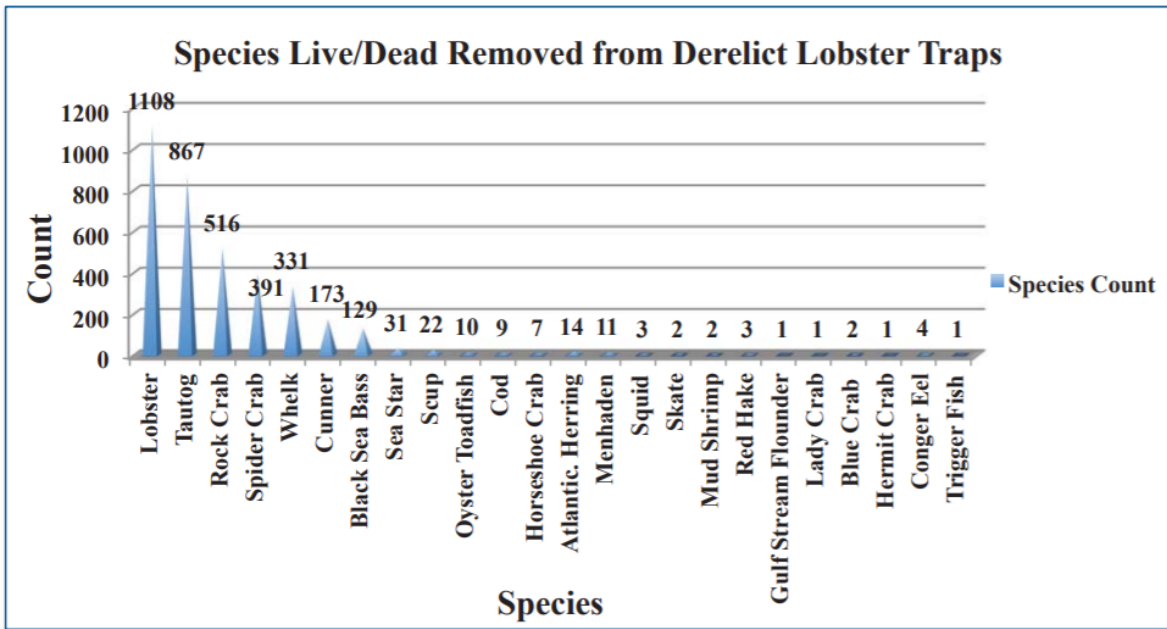
Whelk (*Busycon spp.*)

Whelk is a common name used for Northern predatory sea snails. They can be found throughout sandy, shallow waters.

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CONTINUING THE DISCUSSION - GHOST FISHING - THREATENING LOCAL SPECIES



Source: NOAA Marine Debris Final Report 2016

Question 1.

Mortality of local marine species within the LIS, such as, American lobster, black sea bass, scup, tautog, oyster toadfish, horseshoe crab and blue crab is occurring. Why are these particular species most effected by the derelict lobster traps?





TESTING YOUR KNOWLEDGE - GHOST FISHING - THREATENING LOCAL SPECIES

Question 2.

Why does ghost fishing exist throughout our oceans? Is it any different than other marine debris found in the water?

Question 3.

Is ghost fishing the reason the lobster population in the LIS collapsed? If yes, why? If no, why?

Question 4.

What practices on land could help the lobster and other bottom-dwelling species population increase?

Question 5.

Why are some of these marine animals that get caught in the abandon traps dying if they're still underwater?



THINKING OUTSIDE THE BOX - PREVENTING GHOST FISHING

Question 6.

Cornell Cooperative Extension is doing amazing work to remove derelict lobster traps out of Long Island waters. Although, just in the LIS, an estimated 760,000 to 1.3 million abandon lobster traps trash the floor. Moving forward, if you had the ability to invent a new mechanism for catching seafood how would you design it? Your ultimate goal is to prevent ghost fishing from happening. You can draw your creation. You can list materials you would use. Get creative!

