New York State Department of Environmental Conservation
Joe Martens, Commissioner

A male blue crab is on the defensive and ready to nip the unwary.

2013 Crustacean Omnibus Regulatory Package

November 15, 2013

Crustacea Unit
Bureau of Marine Resources
Division of Fish, Wildlife and Marine Resources
New York State Department of Environmental Conservation
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Photo courtesy of National Oceanic and Atmospheric Administration/Department of Commerce. Photographer: Mary Hollinger, NOAA/NESDIS/NODC (ret.)

2013 Crustacean Omnibus Regulatory Information Document

Proposed Regulations:

1. Mandatory trip level harvest reporting for commercial whelk permit holders
2. Whelk minimum size limit
3. Prohibit the importation and use of Asian horseshoe crabs as bait
4. Mandate the use of terrapin excluder devices in crab pots or traps in the Marine District
5. Prohibit the release of live out-of-state Crustaceans into New York State waters.

Purpose:

1. Whelk reporting
   The department has regulatory authority for whelk or conch (*Busycon* spp.) (ECL 13-0330 (6)), but has only adopted rules to prohibit the harvest of predatory gastropods in areas that have been closed to shellfish harvest due to biotoxins. Currently there are no reporting requirements for permit holders who have whelk licenses. Harvest reporting is necessary to determine the impact of the fishery on the whelk population. In addition, this information may be necessary in the future if quota management is considered. All New York finfish, lobster and crab permit holders are required to submit monthly SVTRs (6NYCRR 40.1 and 44.4). The department believes fishing effort on whelk has increased due to increased market value. In addition, many lobster fishermen have switched to fishing for whelk due to the decline of the Southern New England lobster population. In 2012, the landings of whelk represented the 10th most valuable fishery in New York. It is critical for management to collect complete landings information.

2. Whelk minimum size limit
   As mentioned above, the department has regulatory authority for whelk or conch (ECL 13-0330 (6)), but has implemented no measures to manage New York's whelk fishery. There are fisheries for channeled (*Busycotypus canaliculatus*) and knobbed whelk (*Busycon carica*) in New York's Marine District. Channeled and knobbed whelks are long lived and late to mature. The average weight of channeled and knobbed whelk was examined from the CTDEEP Long Island Sound Trawl Survey (LISTS) as an indication of population status. The average weight of both whelk species has declined significantly since 1998. This indicates that the size of whelk in the population is getting smaller, which is likely due to harvest of the larger sized whelk in the population. Currently there is no minimum size limit on whelk to protect immature animals from being harvested. Data collected from local channeled whelk indicate females do not begin to mature until they are five and one half to six inches in length (3" to 3.3" in width). To minimize impacts to the fishery, the department proposes to initially implement a 5 and one half inch minimum length or three inch minimum width on the harvest of channeled and knobbed whelk. The minimum size limit may be increased over time to protect newly mature individuals.

3. Asian horseshoe crab imports
   During the past several years horseshoe crabs have been imported from Asia to New York for use as bait to catch whelk and eel. The coastwide harvest of horseshoe crab has remained steady over the past few years, but increased demand for whelk has caused an

increase demand for whelk bait. Even though the horseshoe crabs are being imported dead and frozen, there is concern about the possible introduction of pathogens and invasive species that could impact New York's horseshoe crab population and other native species. The department is also aware that at least one species of Asian horseshoe crab, *Carcinoscorpius rotundicauda*, can accumulate the neurotoxin tetrodotoxin (TTX). This neurotoxin does not degrade by freezing or high temperature, such as cooking. Poisonings from this neurotoxin have been known to result in death due to people eating contaminated seafood. The potential of TTX accumulating in whelk and eel and the subsequent threat to human health are unknown. In addition, there is recent evidence that suggests populations of Asian horseshoe crabs are in decline. The importation of Asian horseshoe crabs for use as bait was an agenda item at the February 2013 ASMFC Horseshoe Crab Board meeting. The Board, responding to reports of these imports from the International Union for the Conservation of Nature (IUCN), developed a resolution to ban the importation and use of Asian horseshoe crabs as bait. In this resolution, the Board recommended that states take any and all action to ban the importation and use of Asian horseshoe crabs as bait as soon as possible. The department is concerned about the potential economic, ecological and health impacts of the use of Asian horseshoe crabs as bait in New York's pot fisheries and is proposing to prohibit the importation, possession and use of Asian horseshoe crabs in New York.

4. Terrapin excluder devices
   Diamondback terrapin (*Malaclemys terrapin*) are an east coast estuarine dependent turtle. These terrapin utilize New York's estuaries as feeding grounds and reproduce in the uplands adjacent to the estuaries. While feeding, diamondback terrapin can be caught and drown in crab traps, which may be set in New York's bays and tidal rivers. The department has been approached by environmentalists and researchers urging the department to mandate the use of terrapin excluder devices on crab traps set in New York's estuaries. Terrapin excluder devices are rectangular devices which decrease the opening of the entrance to crab traps and make it more difficult for terrapin to enter the traps looking for food, thus preventing their drowning. A number of states along the east coast already require fishermen to install terrapin excluder devices on their crab traps. A number of research papers indicate that terrapin excluder devices do not decrease the legal catch of blue crabs. New York conducted a pilot blue crab survey in Great South Bay during the fall of 2012, which in part was designed to look at the impact of the use of terrapin excluder devices. There are no clear trends among the stations and dates. . Average blue crab size and the range of sizes were similar for both trap types. New York is proposing rules to require the use of terrapin excluder devise measuring no larger than 6 inches wide and 2 inches high on all entrances in crab pots set in New York's Marine District.

5. Release of Out-of-State crustacean into New York State waters
   Crustaceans (lobsters (*Homarus americanus*) and crabs) are often sold live at markets. They are not always harvested from New York's waters, and in some cases are not even indigenous to the east coast of the United States (such as Dungeness crab (*Metacarcimus magister*)). These out-of-State marine resources are sometimes intentionally released into New York's waters. The department is concerned that these animals may harbor

pathogens not native to our local stock or carry hitchhikers which could become invasive in our waters. In addition, non-indigenous species may be harmful ecologically to our local marine communities. The department proposes to prohibit the release of any live crustacean that was not harvested from New York's waters.

Supporting Information:

1. Whelk Reporting

   A mandatory permit for commercial whelk harvest was instituted in New York in 2000. The number of whelk licenses issued rose steadily through 2003 (Figure 1). In 2004 the license became limited entry. With limited entry, a permit holder loses their license if they don't renew it in a given year. A proportion of those non-renewed licenses are available to be re-issued to new applicants that meet the license requirements. This has resulted in a slow decline in the number of resident licenses that are issued, though it has leveled off. Due to the limited entry, only a small number of new licenses are available each year (Table 1). The number of new licenses available decreased through 2010. Since then the number of resident licenses available has ranged from zero to three. The ratio of licenses available versus the number of applicants decreased rapidly from 2004 through 2009. Since then it has been around 8% in those years where permits were available.

   New York whelk landings reported by state and Federal permit holders have increased from 2008 through 2013 (Figure 2). The reported landings increased dramatically between 2011 and 2012 and again from 2012 to 2013. Preliminary data indicate that over 1.4 million pounds of whelk were landed in 2013. Whelk landings by species are presented in Table 3. The proportion of the landings not specified by species has increased over the time series. In 2012 the majority of the landings were unspecified whelk. Whelk harvest occurs during the summer and fall, with the majority occurring in the summer (Table 4).

   Prior to 2011, there was no requirement for any permit holders to report their whelk harvest. Revised reporting requirements were adopted in August 2011 which required food fish, lobster and crab permit holders to report all species harvested on their State or Federal harvest reporting form. It also required food fish and crustacean dealers and shippers license holders to report sale of whelk. Compliance monitoring of 2012 whelk permit holders indicate that 17 out of 263 did not hold food fish, lobster, crab or food fish and crustacean dealers and shippers licenses, and therefore were not required to report. Thirty-one percent of the 246 whelk permit holders who were required to report where fully compliant, which means they sent in at least one report monthly. Sixty-nine percent were missing reports and 13% sent in no reports. Only 15% of the whelk permit holders reported landing whelk. This may not be a reflection of the percentage of people harvesting whelk since a number of permit holders have stated that they would not report their whelk landings until all whelk permit holders were required to report.

   It is very likely that whelk landings are under reported since reporting is not required specifically for whelk permit holders, the requirement for any reporting of whelk landings did not occur until 2011, and the low reporting compliance rate. This is

particularly true for data prior to August 2011, when revised reporting rules were adopted which specified that all landed species were required to be reported. Accurate landings data is the backbone of fishery management, so it is essential for whelk permit holders to be required to report their harvest.

2. Whelk size limit

Whelk life history characteristics of slow maturation, slow growth rate, and lack of a dispersal larval mode, make them especially prone to depletion. Coastwide landings of four whelk species (channeled, knobbed, lightning and pear) have increased 62% since 2005 (Figure 5). Based on NMFS commercial statistics, the price per pound has doubled in recent years compared to the early 2000's. The whelk fishery has become an alternative fishery to the depleted Southern New England lobster fishery. The Atlantic States Marine Fisheries Commission (ASMFC) Policy Board discussed developing a whelk management plan due to the impact of the increasing whelk fishery on horseshoe crab populations. The Policy Board decided against it since there was little indication of interstate migration.

There is limited information on the population status of whelk in New York. The CTDEEP Long Island Sound Trawl Survey (LISTS) has been recording whelk data on the species level since 1998 (the trawl survey was not conducted during the fall of 2010). Indices of relative abundance where developed from data collected during the fall survey since catches were more consistent during that time of year (Figures 6 A and B). Indices for both channeled and knobbed whelk declined from 2001 to a low in 2006. Since then the channeled whelk index increased to a lower peak in 2008 and has since declined. On the other hand, the knobbed whelk index remained low through 2009 and increased somewhat in 2011. The average weight of channeled and knobbed whelk was examined as another indication of population status (Figures 7 A and B). The average weight of both channeled and knobbed whelk has significantly declined since 1998. This is an indication that the size of whelk in the population is getting smaller, which could be due to harvest of the larger sized whelk in the population. This is a concern since the largest whelks are predominantly female and female whelks don't mature until large size (see below). Channeled whelk density data is also available from Orient and Northwest Harbor in Peconic Bay. This data was collected during a dive survey conducted by Dr. Steve Tettelbach of Long Island University. This survey was conducted during the fall and spring from 2005/2006 through 2012 (Figures 8 A – D). The densities of whelk from the spring surveys show a large decline from 2006 (Figures 8A and 8B), while the fall data does not show a clear trend.

Recent research that was conducted on whelks from Buzzards Bay, MA determined that 50 percent maturity (SM_{50}) of male channeled whelk occurred at approximately four and a half inches shell length and at 6.9 years old, while females reached SM_{50} at six and one quarter inch shell length and at 8.6 years of age (Peemollear and Stevens, 2013). At the current minimum size limit in MA (2.75 inches minimum shell width) females enter the fishery approximately 2 years before they reach SM_{50}.

The department collected 274 whelk samples from Block Island Sound (BIS), Eastern

Long Island Sound (ELIS), Peconic Bay (PEC), Great South Bay (GSB), and Western Long Island Sound (WLIS) from a variety of sources (Table 2). Female gonad and nidemental gland weight was examined versus shell length and width to determine maturity at size (Figures 9 A – D). The exponential increase in gonad and nidemental gland weight with increasing size is an indication of a maturing reproductive system. Maturation proceeds rapidly over a very short length span. The information collected indicates that maturity is similar for whelks collected in the eastern and western portions of Long Island (Figures 9 A – D) and between whelks collected during different seasons (Figures 10 A and B). The maturity data indicates that the females don't begin to mature until they are between five and one half and six inches in length and approximately three inches in width. Female whelks smaller than five and one half inches in length or three inches in width are immature.

A small sample of knobbed whelk (13 whelks, 8 females) was collected from mainly ELIS during the CTDEEP spring trawl survey for examination of maturity. Figures 11 A and B presents maturity information for channeled and knobbed whelk. The maturity information from the knobbed whelk fits fairly well with the information from the channeled whelk. The knobbed whelk that were collected were all larger (>6" shell length and >3" shell width), and they would all be considered mature or maturing. Preliminary examination of the relationship of length and width for channeled and knobbed whelk indicate that knobbed whelk are generally longer for a give width compared to channeled whelk (Figure 12 and Table 3 A and B).

Size limit regulations from Massachusetts (MA) through Virginia (VA) are presented in Table 4. All the states except New York (NY) and Connecticut (CT) have minimum length and/or width restrictions for channeled and knobbed whelk. Maryland (MD) and VA have the largest size limits at six inches in shell length and either three and one-eight (channeled) or three and one half (knobbed) inches shell width. Rhode Island (RI) has the smallest size limit at four and three-quarters inch shell length and two and three-quarters inch shell width. MA is currently at 2 and three-quarters inch shell width for both knobbed and channeled whelk. The size limit will increase to three inches over the next two years for channeled whelk in response to new size at maturity data which indicates all female whelks are immature at the current size limit.

3. Asian horseshoe crab imports

Horseshoe crabs are used as bait for the eel and whelk pot fisheries. The demand of horseshoe crabs for bait, and their key role in the ecosystem, particularly for shorebirds, prompted the Atlantic States Marine Fisheries Commission (ASMFC) to develop a coastwide management plan for horseshoe crabs in the late 1990's. In recent years the high demand for bait (Figure 5 – coastwide whelk landings) and the reduced availability of horseshoe crabs (Figure 13 – coastwide horseshoe crab landings) has driven the price up and motivated dealers to import horseshoe crabs from Asia into New York.

There are a number of concerns about the use of Asian horseshoe crabs (*Carinoscorpius rotundicauda*, *Tachypleus gigas* and *Tachypleus tridentaus*) as bait in New York and other east coast waters. A major concern is that these imported crabs may host

parasites, pathogens and non-native species that could severely impact native horseshoe crabs (*Limulus polyphemus*) and could have harmful economic and ecological affects. There is also concern about potential impacts on other native species. Furthermore, at least one of the Asian horseshoe crabs, *C. rotundicauda*, has been implicated in tetrodotoxin (TTX) poisoning in Asia. TTX is a powerful neurotoxin which does not degrade by freezing or high temperatures, such as cooking. TTX poisonings have been known to result in the death of people whom have consumed contaminated marine organisms. The risk of eel or whelk accumulating TTX from contaminated horseshoe crabs as well as the subsequent risk to human health is not known. *C. rotundicauda* and *T. gigas* co-occur in Southeast Asia. Young *C. rotundicauda* are similar in size to *T. gigas* and may be easy to confuse. In addition, recent information indicates that many populations of Asian horseshoe crabs may be in decline. Importation as use for bait in East Coast fisheries may further impact Asian horseshoe crab populations.

The Horseshoe Crab Specialist Group of the International Union for the Conservation of Nature (IUCN) contacted the United States Fish and Wildlife Service (USFWS), ASMFC, and State Marine Fishery Directors about their concerns on the importation of Asian horseshoe crabs for use as bait. The USFWS is working on adding Asian horseshoe crab to the list of "Injurious Wildlife" under the Lacey Act. Unfortunately, this may involve legislative changes which may take some time. The importation of Asian horseshoe crabs for use as bait was an agenda item at the February 2013 ASMFC Horseshoe Crab Board meeting. The Board, responding to reports of these imports from IUCN, developed a resolution to ban the importation and use of Asian horseshoe crabs as bait. In this resolution, the Board recommended that states take any and all action to ban the importation and use of Asian horseshoe crabs as bait as soon as possible. At this time several states have already adopted rules prohibiting the possession and use of Asian horseshoe crabs (RI, DE, and SC) and several are developing regulations (MA and MD). The department is concerned about the potential economic, ecological and health impacts of the use of Asian horseshoe crabs as bait in New York's pot fisheries and is proposing to prohibit the importation, possession and use of the Asian horseshoe crabs *Carinoscorpius rotundicauda*, *Tachypleus gigas* and *Tachypleus tridentaus* in New York.

4. Terrapin excluder devices
   Diamondback terrapin and blue crabs (*Callinectes sapidus*) utilize much of the same estuarine and brackish habitat along the east coast of the United States and the Gulf of Mexico. Significant diamondback terrapin mortality, particularly to males and juveniles, can occur through bycatch and drowning in crab pots set in areas where they co-exist. A number of management measures have been explored to decrease terrapin mortality. These range from determining areas of habitat overlap to gear modification. One type of gear modification, called a terrapin excluder device (TED) or bycatch reduction device (BRD), has been shown to be effective at decreasing the bycatch of terrapins, while having little to no negative effect on blue crab catch. A TED is a rigid rectangular structure placed in the entrance funnels of crab pots which prevent terrapins from entering the pot. Roosenburg (2001) reviewed a number of studies that tested different TED designs. The report summarized the results of studies conducted since 1983 from Louisiana to New Jersey (Roosenberg, 2001; Table 1). The studies investigated the

effects of different size TEDs on terrapin and blue crab catch. In general, the studies have determined that 4.5 cm by 12 cm (1-3/4 inches by 4-3/4 inches) and 5 cm by 10 cm (2 inches by 4 inches) TEDs reduced terrapin bycatch and had minimal effect on blue crab catch. In some of the studies the catch of blue crabs increased in the pots with 5 cm by 10 cm TED versus the control pots without TEDs.

The DEC conducted a pilot study investigating the effects of TEDs use on the catch of blue crabs in Bellport Bay during 2012. A 2 inch by 6 inch (4 cm by 15 cm) TED was used, which is the same size adopted by New Jersey. Four stations, located from the Carmens River south to Fire Island, were sampled from late August through late October (Figure 13). A six-trap trawl was sampled at each station. The survey design called for each trawl to contain three traps with TEDs and 3 traps without TEDs (NOT).

Nine hundred forty-six blue crabs were caught during the study, 478 in NOT traps and 468 in TED traps. No diamondback terrapin were caught during the study. Almost 75 percent of the crabs caught were legal size, and they were fairly evenly split between trap types (Table 5). Examination of the number of TED and NOT traps set for each haul ranged from two to four traps of each type (Table 6).

Due to unequal effort among trap types, catch per unit effort (catch/number of traps hauled (CPUE)), was used to compare the number of crabs caught between trap types (Table 7). The CPUE for total blue crabs caught varies among the stations and gear type. Generally the difference in CPUE is less than one crab/trap between gear types, except for station 3 (Figure 14 and Table 7) where there was a difference of 3 crabs/trap in favor of the NOT gear. The CPUE for legal blue crabs showed similar trends, with the largest difference among gear types at station 3 (Figure 15 and Table 7). This is not surprising, since almost 75percent of the total catch were legal crabs. Examination of CPUE by sex is presented in Figures 16 A and B. The difference in CPUE for females was less than one crab/trap, except for station 3 where it was less than 2 crabs/trap (Figure 16A). The difference in CPUE among gear types for male crabs was below 1 crab/trap for all the stations. The CPUE for female crabs was higher at stations near the Carmens River and lower at the stations near Fire Island. Males on the other hand had similar CPUE at stations 1 through 3, and much higher CPUE at station 4.

The CPUE for total blue crab catch by gear type and sampling date is presented in Figures 17 A through D for each station. Sampling conducted on September 12 and 13 were averaged as an estimate of the variability in catch. The CPUE of the NOT traps are presented in the blue squares while the TED traps are in pink. Error bars representing plus/minus one standard deviation is presented for the average CPUE for September 12 and 13. There are no clear trends among the stations and dates. Examination of the estimate of variability for the September sampling indicates that only the catches at station 1 were significantly different. Figures 18 A through D presents the same information for the legal catch. Again, there is no discernible trend in the data. The difference in CPUE between trap type ranges from 7.3 more crabs/trap in TED traps to 4.5 more crabs/trap in NOT traps. The September estimate of variability indicates there is no significant difference in CPUE of legal crabs among trap type.

Average blue crab size was the same in both trap types (4.9 inches), while the range in size was greater for the TED traps (TED - 2.4 inches to 9.5 inches, NOT – 2.0 inches to 6.3 inches). Percent length frequency was used to examine the difference in size among traps (Figure 19). The minimum legal size is denoted by the black dotted line. There is no consistent difference in size among trap types. Roosenburg's (2001) review found similar results in other studies. TEDs smaller than 4.5cm (1.8 inches) were found to reduce the number of legal size crabs caught, while TEDs greater than 4.5cm did not affect the size of the blue crabs caught. Some of the studies using 5cm (2 inches) TEDs saw an increase in the number of crabs caught in the TED traps compared to the NOT traps. The DEC study has similar results as previous studies. The use of TEDs did not affect the size range of blue crabs that were caught in pots and the data did not indicate any consistent trend in CPUE among the trap types.

In the mid-Atlantic region, New Jersey, Delaware, and Maryland all have some type of regulations requiring use of TEDs in crab pots. Both Delaware and Maryland require the use of 1-3/4 inches by 4-3/4 inches TEDs in recreational crab pots. The reason it is restricted to only recreational crab pots is that recreational pots are generally set in near shore, shallow areas which is the major habitat of diamondback terrapin. New Jersey requires that crab pots set in any body of water less than 150 feet wide or any man-made lagoon include a terrapin excluder device no larger than 6 inches wide and 2 inches high.

New York is proposing rules to require the use of terrapin excluder devise measuring no larger than 6 inches wide and 2 inches high on all entrances in crab pots set in New York's Marine District. This includes the waters the Hudson River south of the Tappan Zee Bridge.

5. Release of Out-of-State crustacean into New York State waters
   A number of marine resources (such as American lobster, tautog, American eel, black sea bass) are often marketed live. The liberation of fish and wildlife are covered by New York's Environmental Conservation Law (ECL) Section11-0507. The ECL requires a permit to liberate and fish or wildlife, but the ECL does not include crustaceans.

   Crustaceans in New York's markets may not have been harvested from New York's waters. Individuals from other areas may harbor pathogens or parasites that are not indigenous to New York. Lobsters are generally marketed live. Due to the decline in southern New England lobster stocks, most of the live lobsters in New York's markets are from Maine or the Canadian Maritimes. There have been a number of occasions where members of the public have purchased large lobsters, or lobsters with interesting color variations who want to release the lobsters into New York waters. Often these lobsters were not harvested from New York waters. In addition, in the past year there have been 2 sightings of Dungeness crabs in New York's marine district waters. Dungeness crabs are indigenous to the west coast of the United States, but have been sighted in a number of New England states.

   The department proposes to prohibit the release of live crustaceans that were not

harvested from New York's waters without a permit issued by the department. This rule is proposed to help prevent the introduction of organisms which may cause ecological harm to New York's marine communities.

Issues:

1. Whelk Reporting
   Since the 2011 revision of the reporting regulations (40.1(c), 44.4), all food fish, lobster, and crab permit holders were required to report ALL species landed, which would include any whelk that they landed under their whelk permit. Currently, there are 17 out of 263 whelk permit holders that did not have to submit trip level reporting to the department.
   In addition to the 17 permit holders listed above, who have never had to report whelk landings, there are some permit holders who do not believe it is fair that they need to report their whelk harvest while others are not required to.

2. Whelk size limit
   There are a number of issues, both pro and con, in regards to establishing size limits on the harvest of whelk:
   - Some harvesters are concerned about the long term sustainability of New York's whelk fishery in light of the recent increase in effort and whelk harvest. There is particular concern that small, immature whelk are currently being harvested, which was not the case in the past.
   - Some harvesters don't believe whelk should be regulated. They claim that whelk is a predator on other resource species (shellfish, lobster, etc). They often mention that some town laws prohibit harvesters from returning their whelk catch back to the water.
   - There are at least 4 towns on Long Island that currently have rules that prohibit harvesters from returning whelk to the water alive after they have been harvested. The department will need to notify these towns that their rules will need to be changed.
   - A number of permit holders from western Long Island Sound and in the south shore bays believe whelks in those areas are smaller than those on the east end and that they should have smaller size limits than harvesters in eastern Long Island.
     - Data collected by the DEC indicate that whelk collected in western Long Island Sound have similar maturity schedule to whelk collected in eastern Long Island and to protect immature females both areas should have the same size limit (see supporting information section).

3. Asian horseshoe crab
   - An assessment of the invasive species risk of Asian horseshoe crabs was conducted by the department's Invasive Species Section. They determined Asian horseshoe crab did not have high invasive risk.
     - The report focused mainly on the invasive risk of the three Asian species, and did not judge the risk from pathogens or parasites that could be introduced by use of the Asian crabs as bait

    - The report also didn't focus on the potential contaminant risk of *Carinoscorpius rotundicauda*.
    - The invasive assessment scoring system ranks species that have already been introduced and have become invasive higher than those that have the potential to become invasive.
  - Horseshoe crab fishermen who have difficulty finding horseshoe crab bait may be opposed to this prohibition. In addition, dealers, especially those who ship and deal whelk or conch may also be against this prohibition.

4. Terrapin Excluder Device (TED)
   - Crabbers may oppose the proposal because they may believe TEDs will decrease their crab catch and they also may be concerned about the time and money it will take to retrofit their gear.
   - Information indicates a small diamondback terrapin population resides in Piermont Marsh on the Hudson River. Little information is known about terrapin populations in other parts of the Hudson River. TED requirements for crabbers in the Hudson River and tributaries may not be warranted.

5. Release of Out-of-State crustacean into New York State waters
   - Unique specimens (extremely large, color variants, etc.) are often released by the public to "save" the animal. The public could have negative reaction to this rule.

Stake Holder Input:
Previous public discussions:

1. Whelk
   - Crustacean Unit staff held a meeting with whelk permit holders in 2011 to discuss options for whelk management. Mandatory harvest reporting was discussed at the meeting along with size limits and effort controls (trap limits).

   - The issue of increased whelk harvest was discussed at the February 2013 Horseshoe Crab Management Board meeting. The Board discussed development of a Fishery Management Plan for Whelk. At the ASMFC May 2013 meeting the Policy Board decided that ASMFC would not develop a whelk management plan since the species has limited migration. It suggested that management issues could be discussed regionally.

2. Asian horseshoe crab
   - The import and use of Asian horseshoe crab was an agenda item at the February 2013 ASMFC Horseshoe Crab Board meeting. The Board responding to reports of these imports from the International Union for the Conservation of Nature (IUCN) developed a resolution (Resolution 13-01) to ban the import and use of Asian horseshoe crabs as bait (Resolution attached). In this resolution, the Board recommended that states take any and all action to ban the importation and use of Asian horseshoe crabs as bait as soon as possible.

3. Terrapin Excluder Device (TED)
    - Mandatory use of terrapin excluder device was discussed with crab permit holders before the current TED regulations were adopted in 2006.
    - Dr. Burke and Mr. Tuner gave a presentation to MRAC July 2012 about the need for TED's to help local diamondback terrapin populations.

Current Process:

- The department notified Marine Resources Advisory Council (MRAC) about items proposed for the Crustacean Omnibus regulatory package at the September 17, 2013 meeting. The department asked for the review of the information document be an agenda item at the November 12, 2013 MRAC meeting.
- Present information document at the November 12, 2013 MRAC meeting
- The information document will be available on the department's webpage in mid- November.
- Notification will be sent using e-mail (nysdec@public.govdelivery.com) and post cards to commercial whelk, crab, lobster and food fish and crustacean dealers and shippers permit holders. The following will be included: web address for the information document and DEC public listening meeting date and agenda.
- Public listening meeting will be held December 16, 2013 from 6:30 to 9:30 pm at the Marine Resources Headquarters in East Setauket
- Advise Resident crab permit holders in Region 3 on terrapin excluder devise proposed rules
- Develop regulatory package (early winter)
- Present regulatory package at January 14, 2014 MRAC meeting
- Present regulatory package at 2014 winter HREMAC meeting

Figure 1.

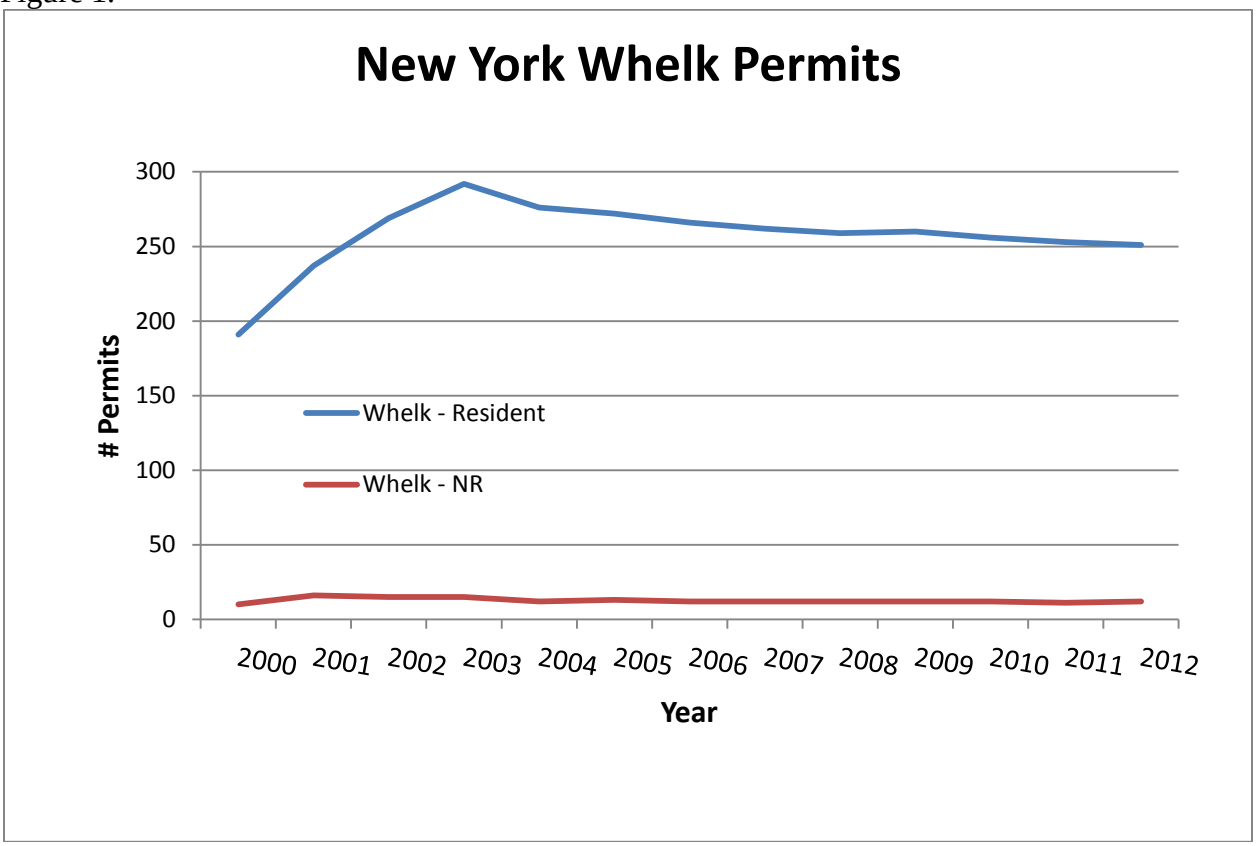


Table 1.
Whelk Limited Entry, Available Permits

YEAR	AVAILABLE /ISSUED	APPLICANTS	RATIO	WHELK
2004	7	7	1.00	No separation of Resident/Nonresident
2005	10	13	0.77	No separation of Resident/Nonresident
2006	7	19	0.37	No separation of Resident/Nonresident
2007	7	57	0.12	No separation of Resident/Nonresident
2008	6	29	0.21	Only Resident available
2009	5	23	0.22	Only Resident available
2010	0	32	0.00	Only Resident available
2011	3	35	0.09	Only Resident available
2012	3	40	0.08	Resident
2012	1	5	0.20	Nonresident
2013	3	36	0.08	Only Resident available

Figure 2.

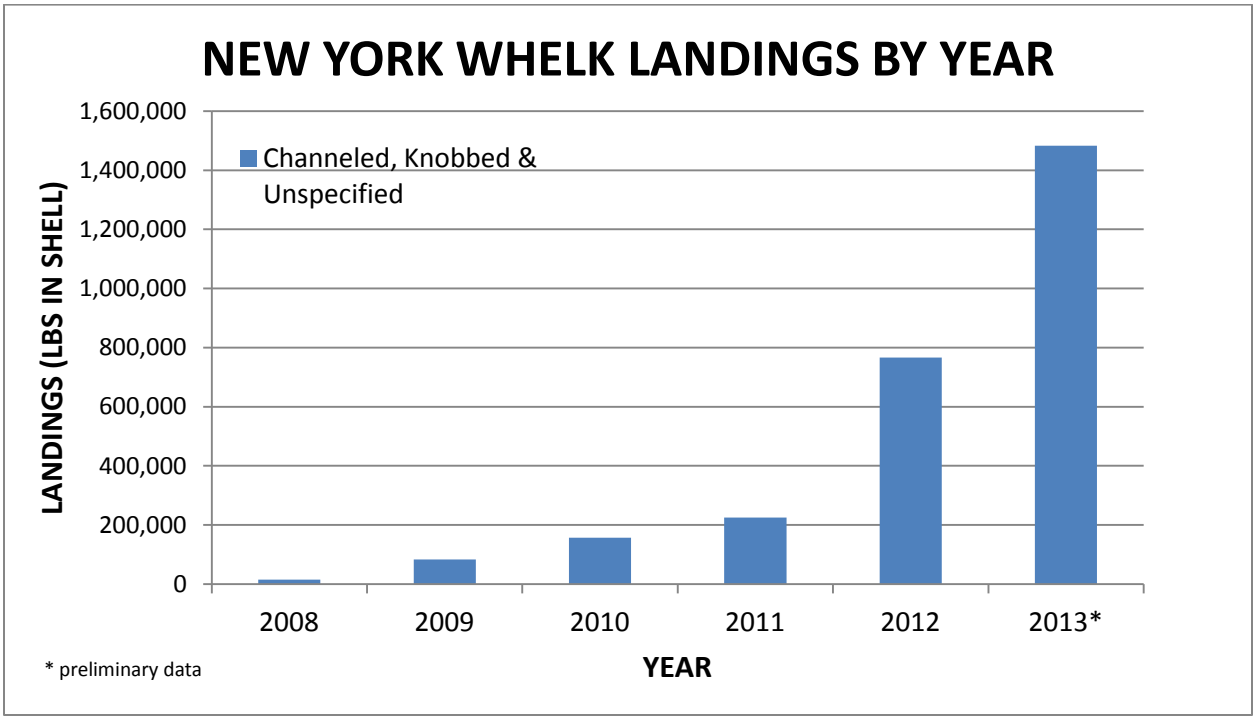


Figure 3.

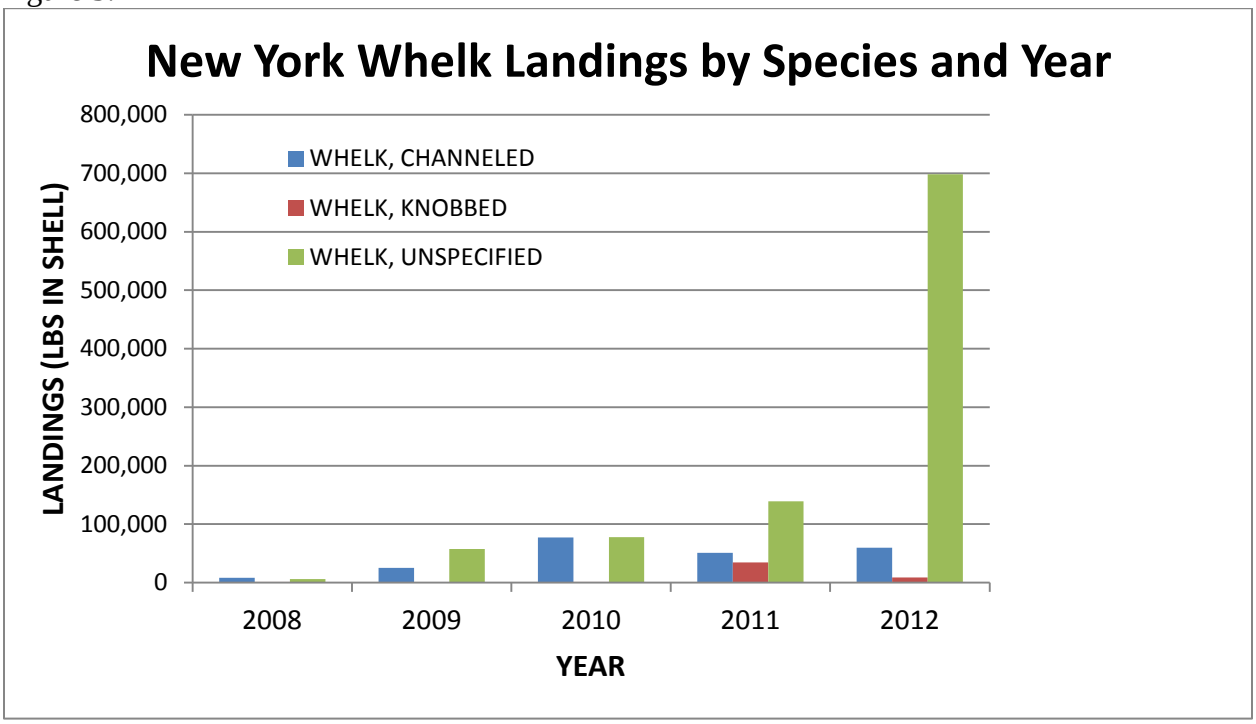


Figure 4.

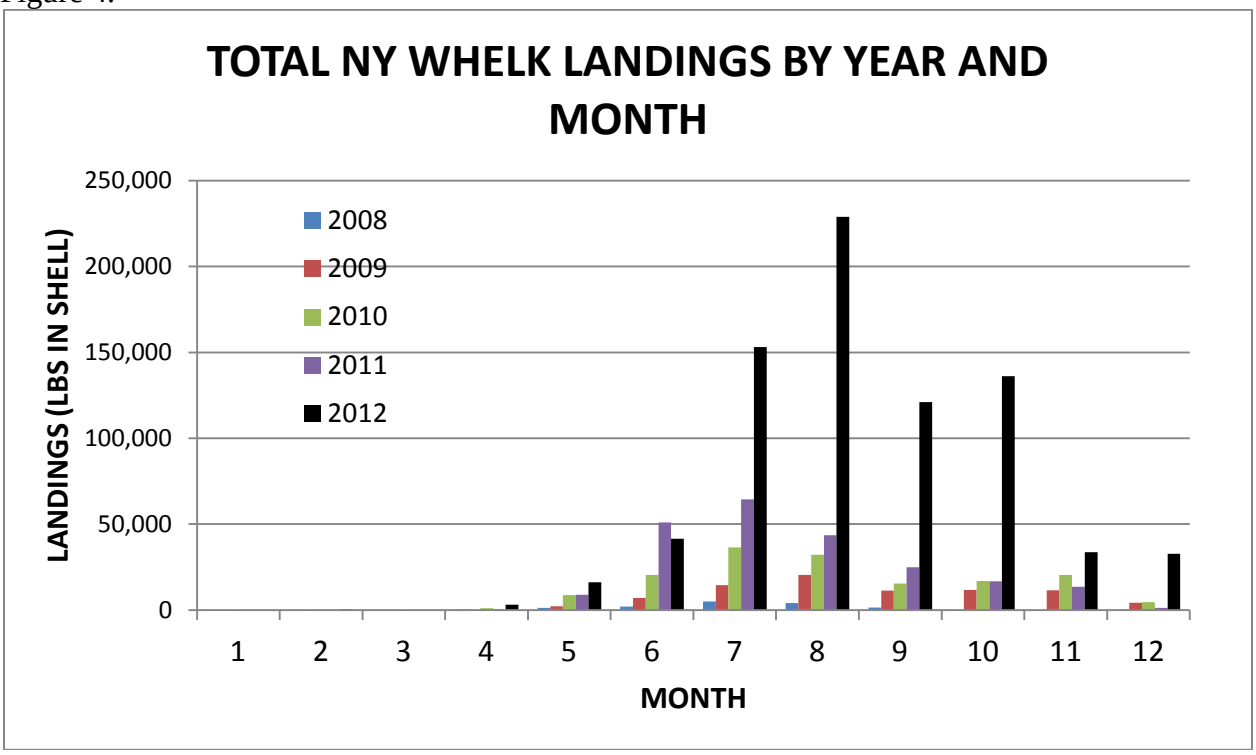


Figure 5.
Whelk landings of channeled, knobbed, lightning and pear in live pounds from ACCSP Data Warehouse, May 2013 (Source ASMFC Policy Board Whelk report) and DEC 2008 – 2011 landings.

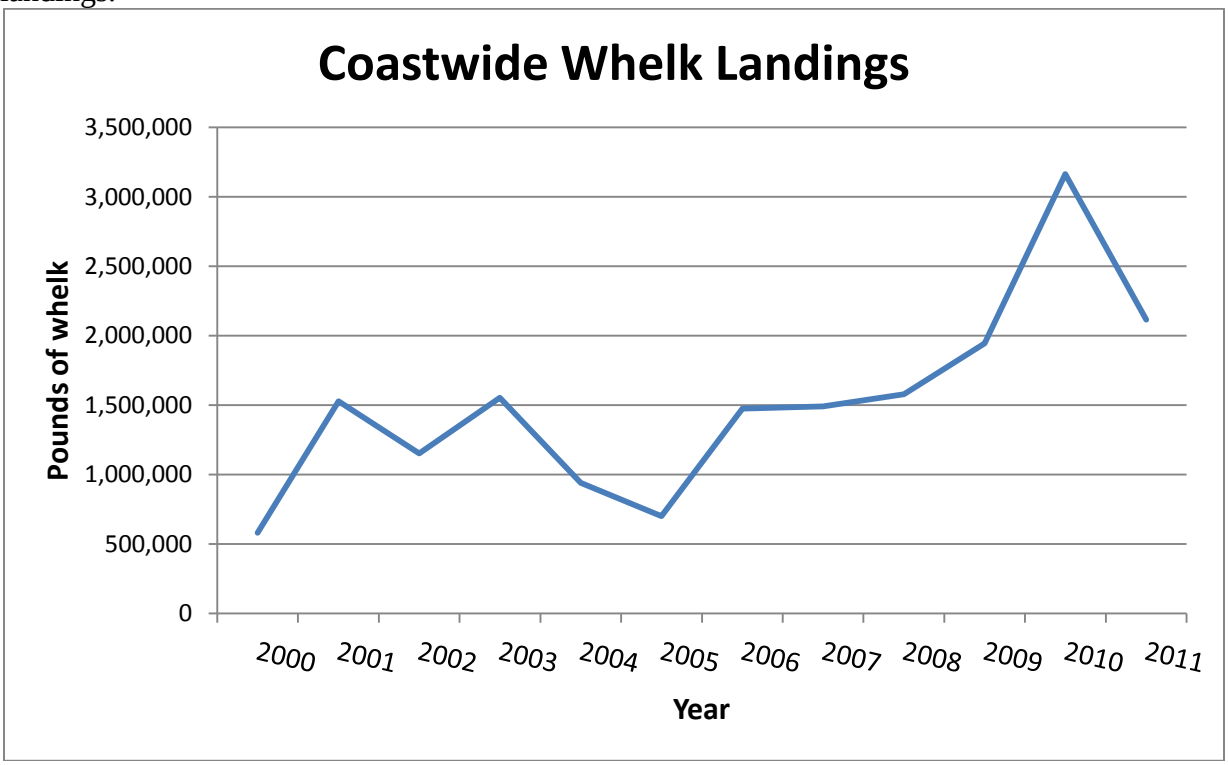


Figure 6A.

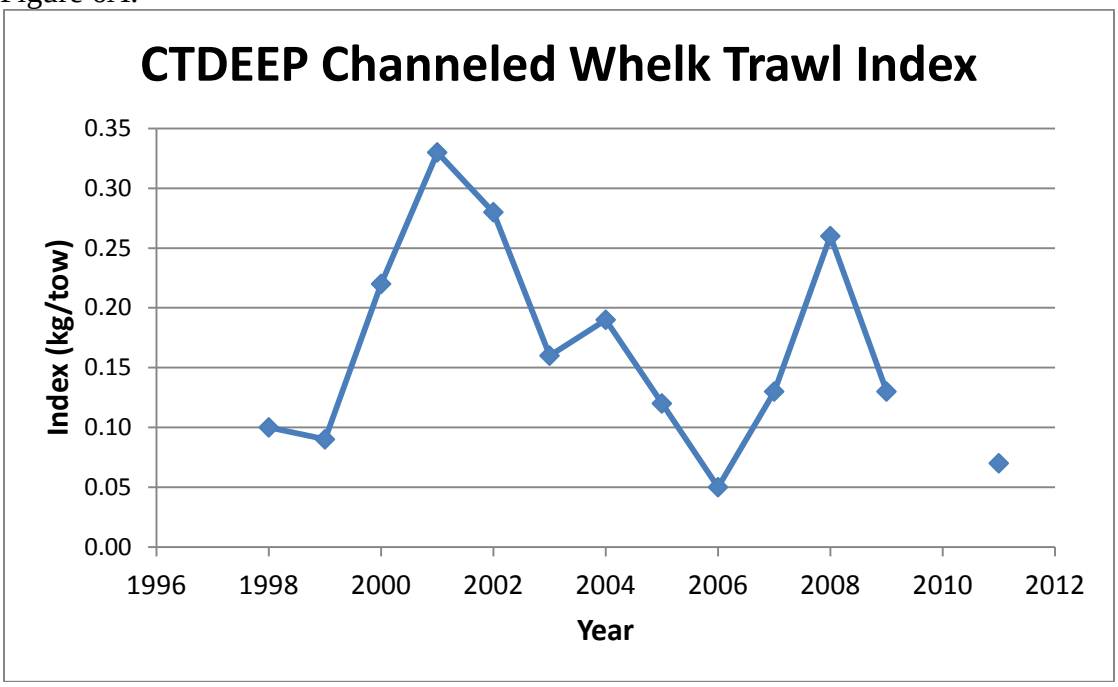


Figure 6B.

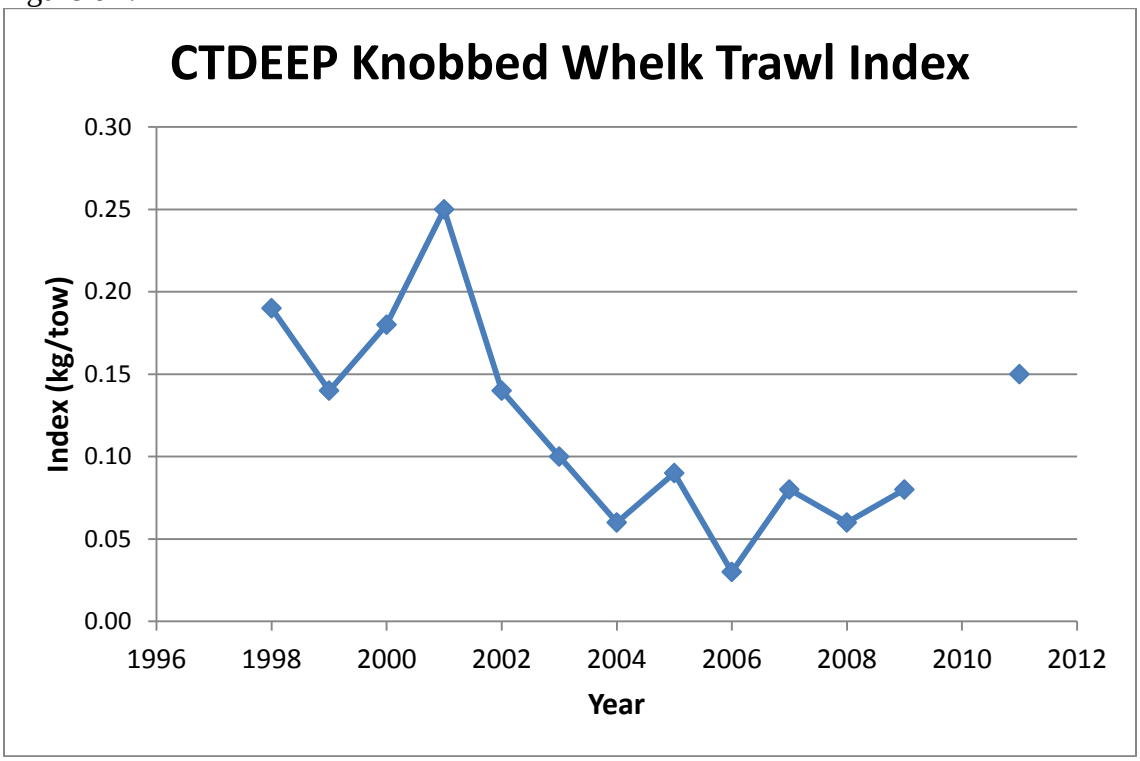


Figure 7A.

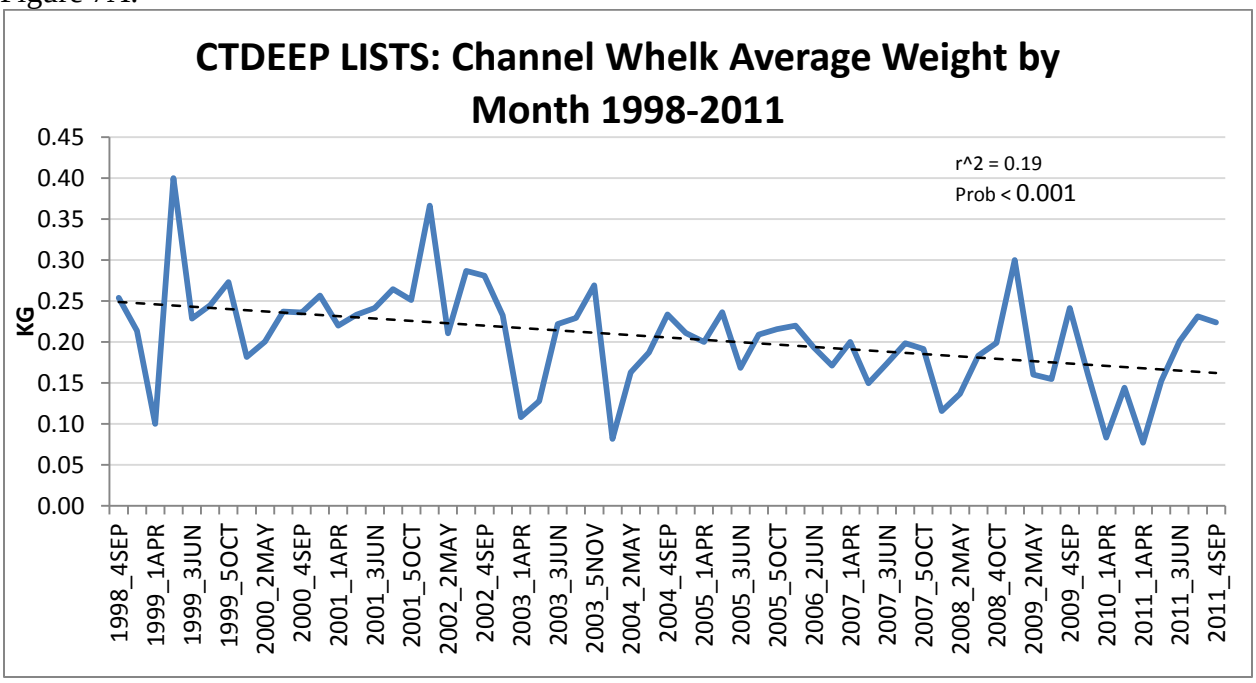
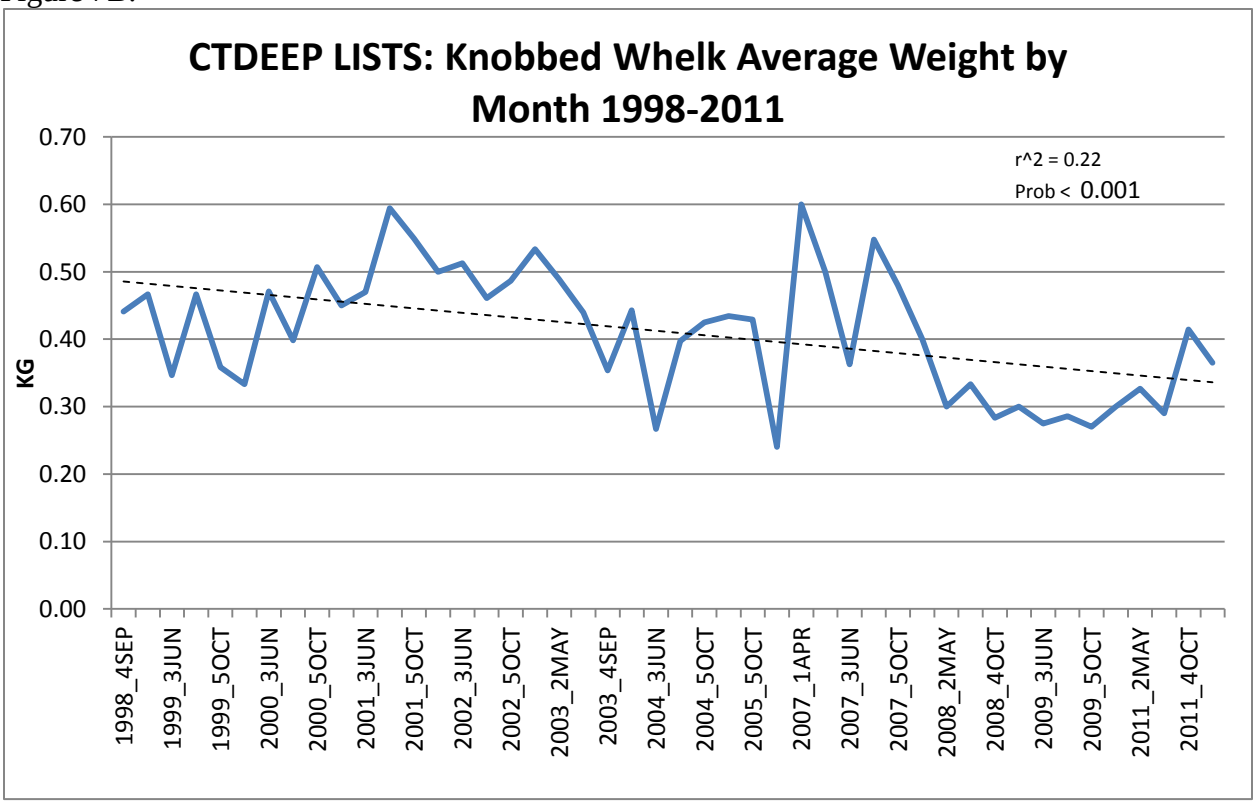
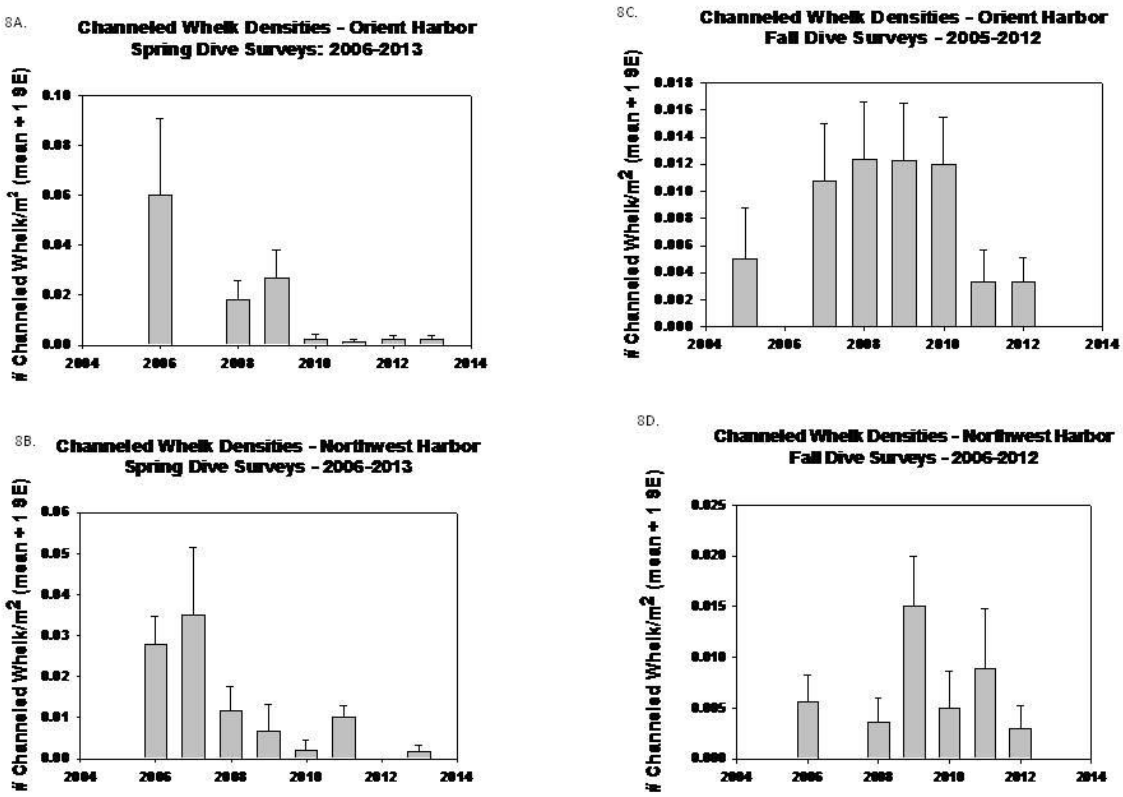


Figure 7B.



Figures 8 A - D



S. Tettelbach, LIU – unpub. data

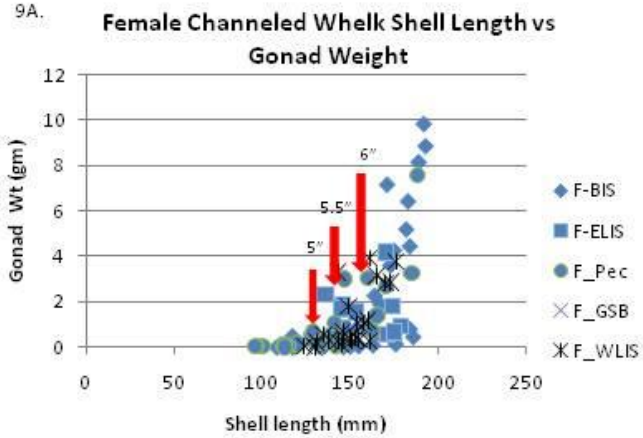
Table 2.

DEC Whelk Samples - Sexes Combined

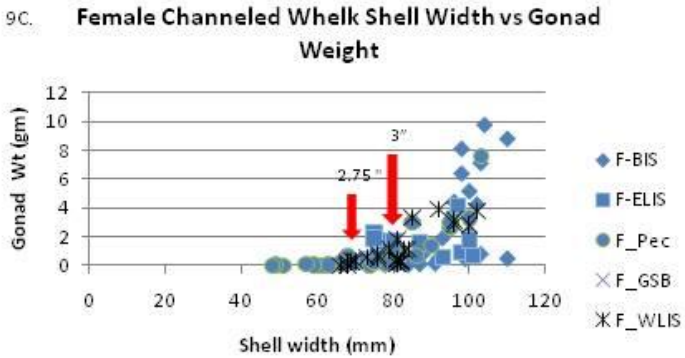
Length (")	BIS	ELIS	PEC	GSB	WLIS	Total
0 - 0.5	0	0	0	0	0	0
0.6 - 1.0	0	0	0	0	0	0
1.1 - 1.5	0	0	0	0	0	0
1.6 - 2.0	0	0	0	0	1	1
2.1 - 2.5	0	0	2	0	0	2
2.6 - 3.0	0	0	0	0	0	0
3.1 - 3.5	0	2	0	0	2	4
3.6 - 4.0	0	1	6	0	2	9
4.1 - 4.5	6	1	11	4	8	30
4.6 - 5.0	14	4	5	2	14	39
5.1 - 5.5	11	7	9	2	12	41
5.6 - 6.0	20	9	9	0	9	47
6.1 - 6.5	48	2	5	0	8	63
6.6 - 7.0	15	4	3	1	3	26
7.1 - 7.5	7	1	2	0	0	10
7.6 - 8.0	2	0	0	0	0	2
Total	123	31	52	9	59	274

Figures 9 A – D.

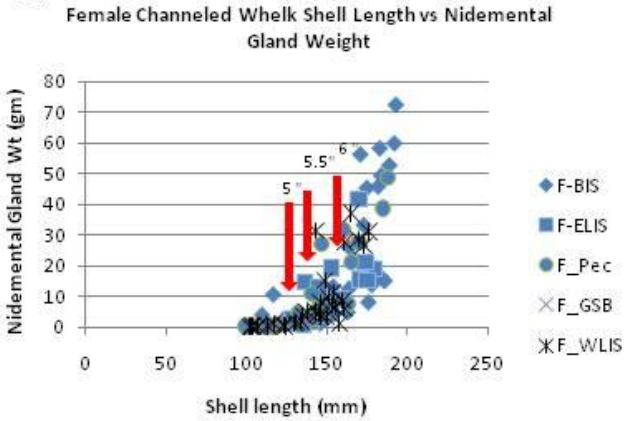
9A.



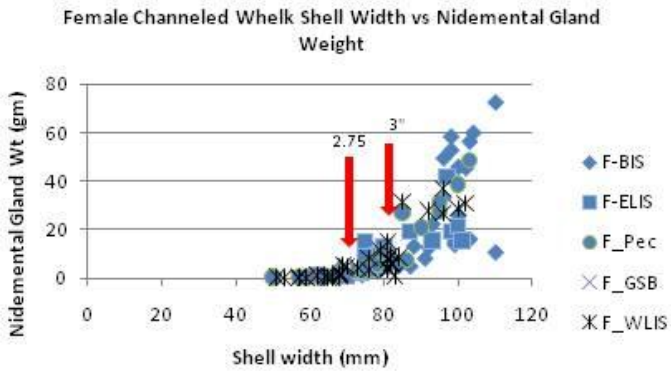
9C.



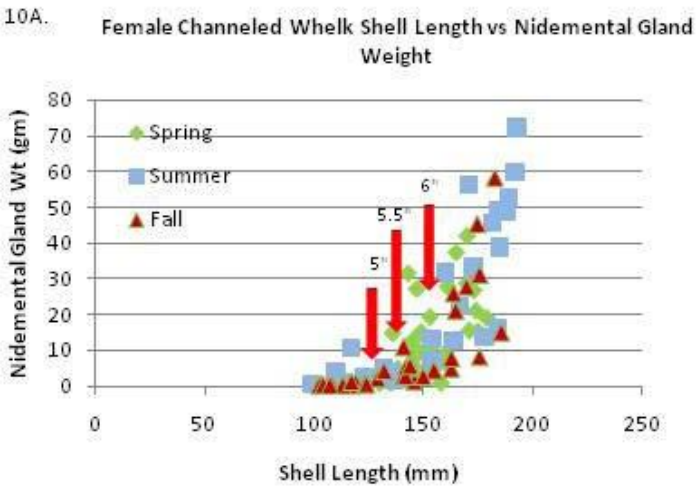
9B.

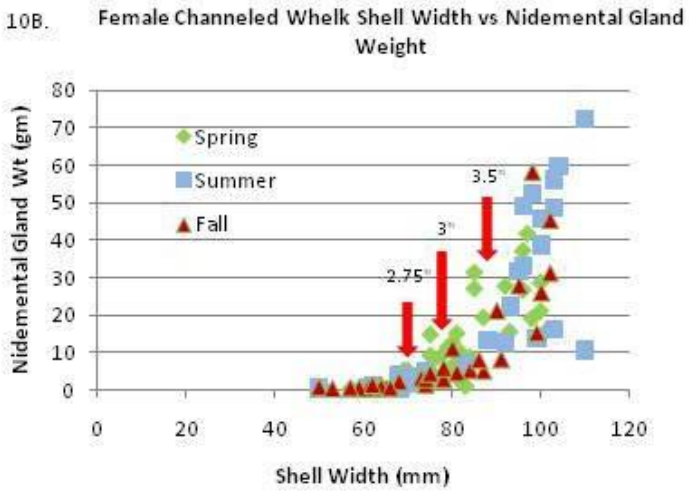


9D.

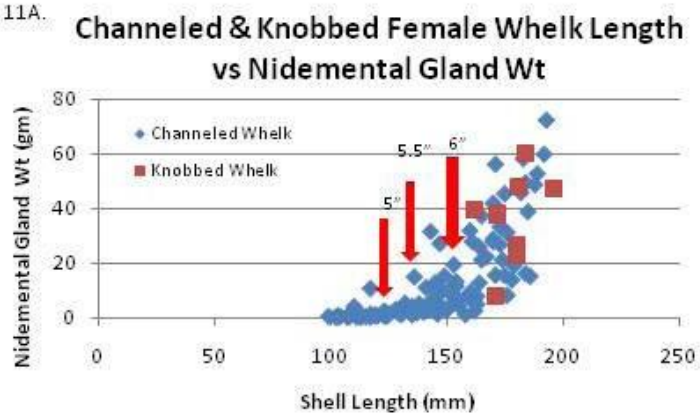


Figures 10 A – B.





Figures 11 A – B.



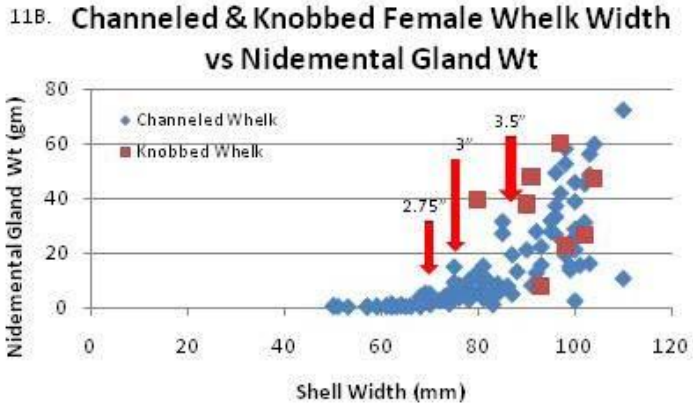
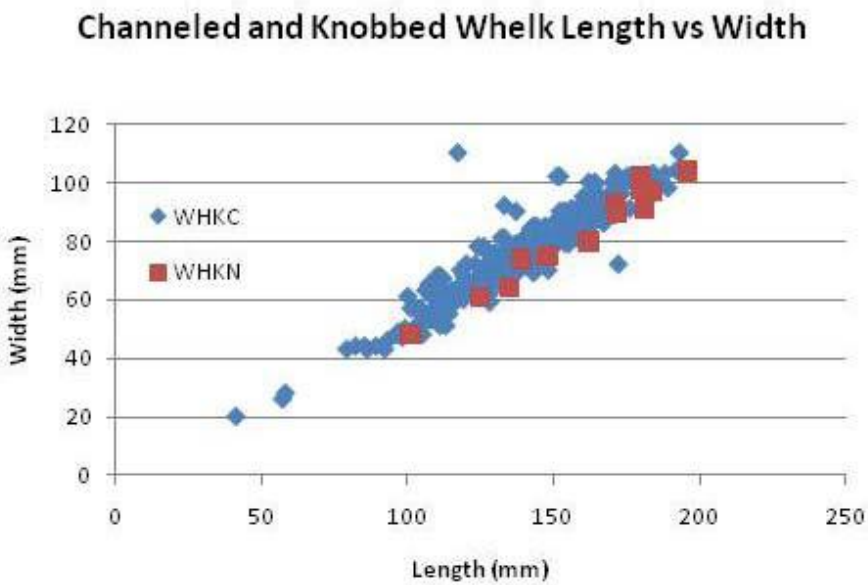


Figure 12 and Tables 3 A and B.



3A.

Channeled Whelk

Length (")	Length (mm)	Predicted Width (mm)	Predicted Width (")
5	127	68.94	2.71
5.5	139.7	76.29	3.00
6	152.4	83.65	3.29
6.5	165.1	91.00	3.58
7	177.8	98.35	3.87

3B.

Knobbed Whelk

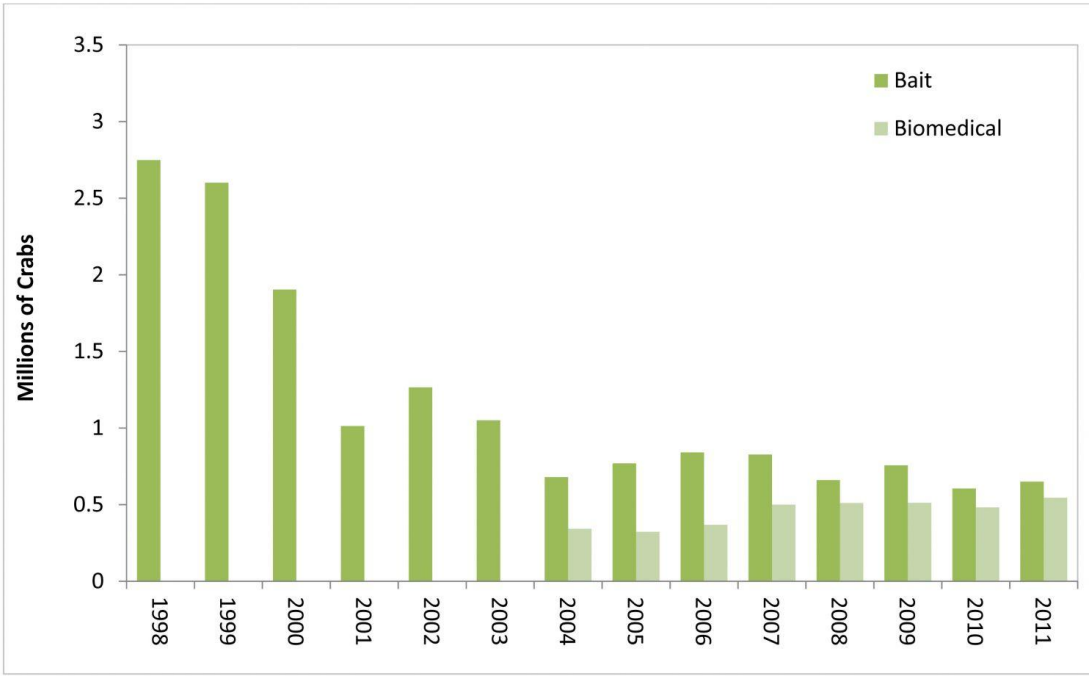
Length (")	Length (mm)	Predicted Width (mm)	Predicted Width (")
5	127	62.82	2.47
5.5	139.7	70.63	2.78
6	152.4	78.45	3.09
6.5	165.1	86.27	3.40
7	177.8	94.09	3.70

Table 4.

Whelk Regulations

	Year	Species	Min Length	Min Width
MA	2013	knobbed		2 3/4
	2013	channeled		2 3/4
	2014	channeled		2 7/8
	2015	channeled		3
RI	2013	knobbed & channeled	4 3/4	2 3/4
CT				
NY				
NJ	2013	Conch	5	
MD	2013	channeled	6	3 1/8
	2007	knobbed	5 1/4	3
	2008	knobbed	5 1/2	3 1/4
	2009	knobbed	5 3/4	3 1/4
	2010	knobbed	6	3 1/2
VA	2013	conch	6	

Figure 13. Coastwide Horseshoe Crab Landings



Coastwide horseshoe crab bait landings and biomedical harvest. Source: ASMFC State Reports, 2012. Please note the following details regarding biomedical harvest numbers: (1) harvest numbers include all horseshoe crabs brought to bleeding facilities, including those that were harvested as bait and counted against state quotas; and (2) most of the biomedical crabs harvested are returned to the water after bleeding; a 15% mortality rate is estimated for all bled crabs.

(http://www.asmfc.org/species/horseshoe-crab)

Figure 13. 2012 Bellport Bay Blue Crab Survey Station Locations.

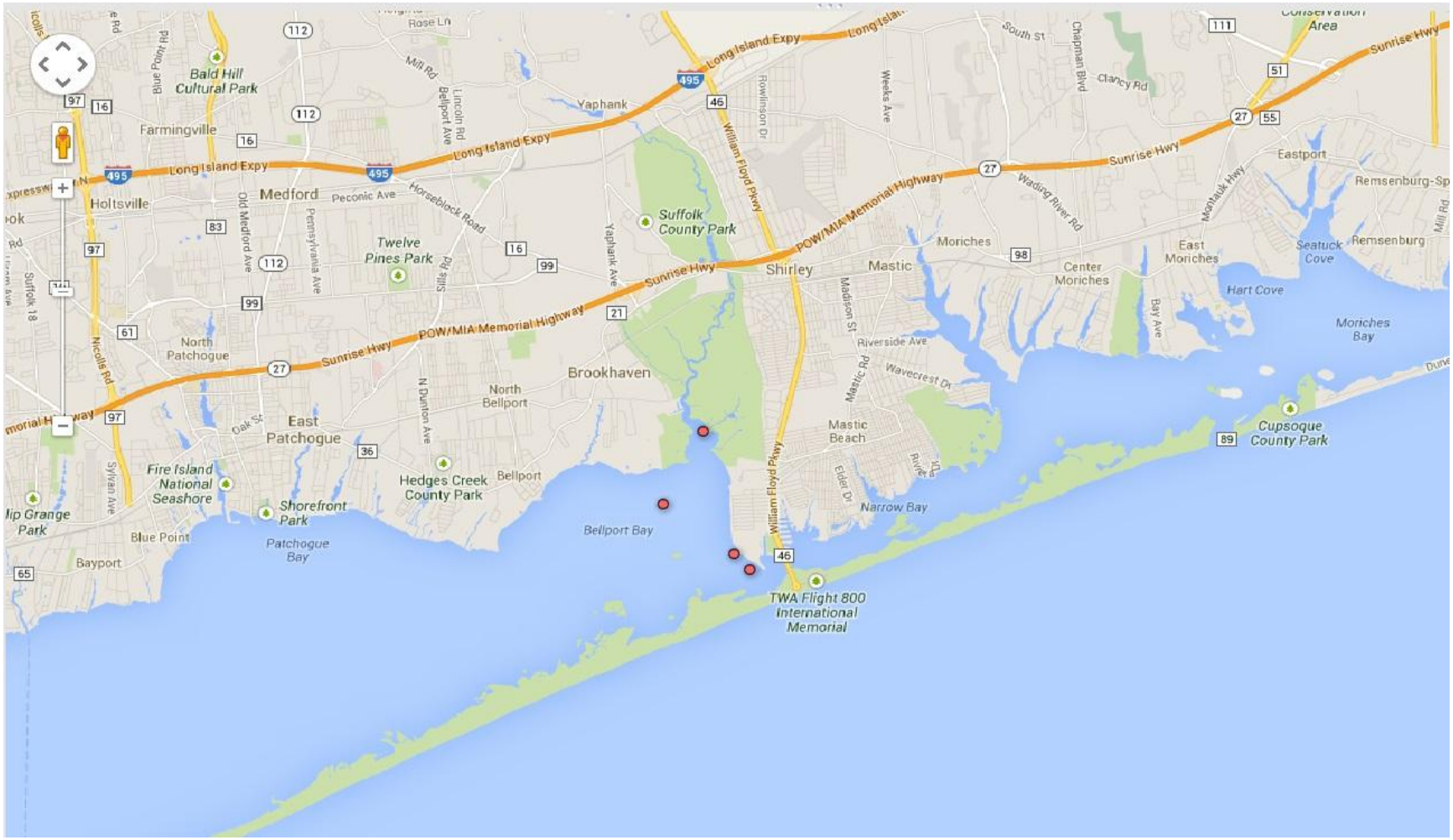


Table 5. Blue Crab Catch

Blue Crab - Total Number Caught

	NOT	TED	Total
01	**116**	**158**	**274**
8/30/2012	35	24	59
9/12/2012	15	13	28
9/13/2012	17	14	31
10/5/2012	23	33	56
10/10/2012	9	35	44
10/25/2012	17	39	56
02	**74**	**109**	**183**
8/30/2012	19	20	39
9/12/2012	12	9	21
9/13/2012	7	11	18
10/5/2012	14	19	33
10/10/2012	16	50	66
10/25/2012	6		6
03	**137**	**96**	**233**
8/30/2012	14	11	25
9/12/2012	47	21	68
9/13/2012	8	6	14
10/5/2012	18	14	32
10/10/2012	39	29	68
10/25/2012	11	15	26
04	**151**	**105**	**256**
8/30/2012	25	5	30
9/12/2012	23	19	42
9/13/2012	13	16	29
10/5/2012	38	30	68
10/10/2012	35	28	63
10/25/2012	17	7	24
Grand Total	**478**	**468**	**946**

Legal Blue Crab - Number Caught

	NOT	TED	Total
01	**81**	**125**	**206**
8/30/2012	21	18	39
9/12/2012	8	7	15
9/13/2012	12	9	21
10/5/2012	18	26	44
10/10/2012	8	30	38
10/25/2012	14	35	49
02	**50**	**82**	**132**
8/30/2012	10	12	22
9/12/2012	7	5	12
9/13/2012	4	7	11
10/5/2012	11	14	25
10/10/2012	13	44	57
10/25/2012	5		5
03	**106**	**67**	**173**
8/30/2012	10	6	16
9/12/2012	39	17	56
9/13/2012	3	5	8
10/5/2012	15	7	22
10/10/2012	32	23	55
10/25/2012	7	9	16
04	**110**	**80**	**190**
8/30/2012	19	2	21
9/12/2012	11	12	23
9/13/2012	6	11	17
10/5/2012	33	26	59
10/10/2012	27	23	50
10/25/2012	14	6	20
Grand Total	**347**	**354**	**701**

Table 6. Numbers of Traps by Trap Type

	NOT	TED	Total
01	**16**	**20**	**36**
8/30/2012	3	3	6
9/12/2012	3	3	6
9/13/2012	3	3	6
10/5/2012	2	4	6
10/10/2012	3	3	6
10/25/2012	2	4	6
02	**13**	**23**	**36**
8/30/2012	2	4	6
9/12/2012	2	4	6
9/13/2012	2	4	6
10/5/2012	3	3	6
10/10/2012	2	4	6
10/25/2012	2	4	6
03	**17**	**19**	**36**
8/30/2012	2	4	6
9/12/2012	3	3	6
9/13/2012	3	3	6
10/5/2012	3	3	6
10/10/2012	3	3	6
10/25/2012	3	3	6
04	**20**	**16**	**36**
8/30/2012	4	2	6
9/12/2012	3	3	6
9/13/2012	3	3	6
10/5/2012	3	3	6
10/10/2012	3	3	6
10/25/2012	4	2	6
Grand Total	**66**	**78**	**144**

Table 7.

Total Blue Crab - CPUE (#/traps)

	NOT	TED	Total
01	**7.25**	**7.90**	**7.61**
8/30/2012	11.67	8.00	9.83
9/12/2012	5.00	4.33	4.67
9/13/2012	5.67	4.67	5.17
10/5/2012	11.50	8.25	9.33
10/10/2012	3.00	11.67	7.33
10/25/2012	8.50	9.75	9.33
02	**5.69**	**4.74**	**5.08**
8/30/2012	9.50	5.00	6.50
9/12/2012	6.00	2.25	3.50
9/13/2012	3.50	2.75	3.00
10/5/2012	4.67	6.33	5.50
10/10/2012	8.00	12.50	11.00
10/25/2012	3.00	0.00	1.00
03	**8.06**	**5.05**	**6.47**
8/30/2012	7.00	2.75	4.17
9/12/2012	15.67	7.00	11.33
9/13/2012	2.67	2.00	2.33
10/5/2012	6.00	4.67	5.33
10/10/2012	13.00	9.67	11.33
10/25/2012	3.67	5.00	4.33
04	**7.55**	**6.56**	**7.11**
8/30/2012	6.25	2.50	5.00
9/12/2012	7.67	6.33	7.00
9/13/2012	4.33	5.33	4.83
10/5/2012	12.67	10.00	11.33
10/10/2012	11.67	9.33	10.50
10/25/2012	4.25	3.50	4.00
Grand Total	**7.24**	**6.00**	**6.57**

Total Legal Blue Crab - CPUE (#/traps)

	NOT	TED	Total
01	**5.06**	**6.25**	**5.72**
8/30/2012	7.00	6.00	6.50
9/12/2012	2.67	2.33	2.50
9/13/2012	4.00	3.00	3.50
10/5/2012	9.00	6.50	7.33
10/10/2012	2.67	10.00	6.33
10/25/2012	7.00	8.75	8.17
02	**3.85**	**3.57**	**3.67**
8/30/2012	5.00	3.00	3.67
9/12/2012	3.50	1.25	2.00
9/13/2012	2.00	1.75	1.83
10/5/2012	3.67	4.67	4.17
10/10/2012	6.50	11.00	9.50
10/25/2012	2.50	0.00	0.83
03	**6.24**	**3.53**	**4.81**
8/30/2012	5.00	1.50	2.67
9/12/2012	13.00	5.67	9.33
9/13/2012	1.00	1.67	1.33
10/5/2012	5.00	2.33	3.67
10/10/2012	10.67	7.67	9.17
10/25/2012	2.33	3.00	2.67
04	**5.50**	**5.00**	**5.28**
8/30/2012	4.75	1.00	3.50
9/12/2012	3.67	4.00	3.83
9/13/2012	2.00	3.67	2.83
10/5/2012	11.00	8.67	9.83
10/10/2012	9.00	7.67	8.33
10/25/2012	3.50	3.00	3.33
Grand Total	**5.26**	**4.54**	**4.87**

Figure 14.

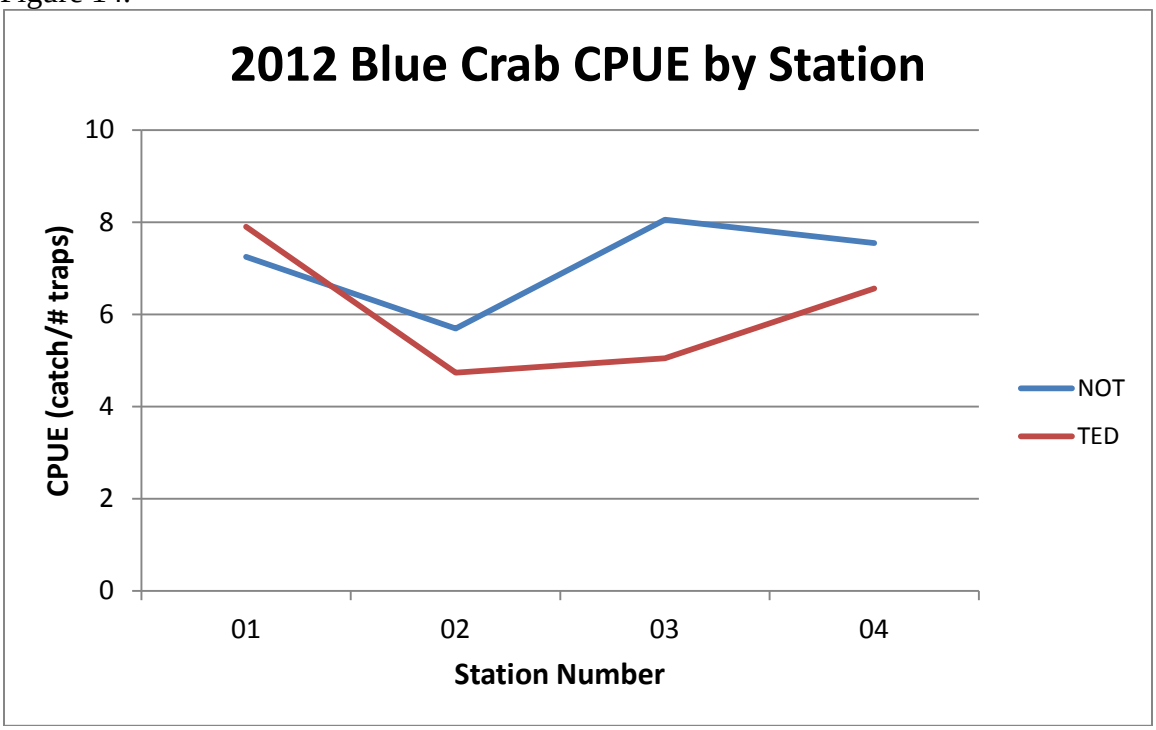


Figure 15.

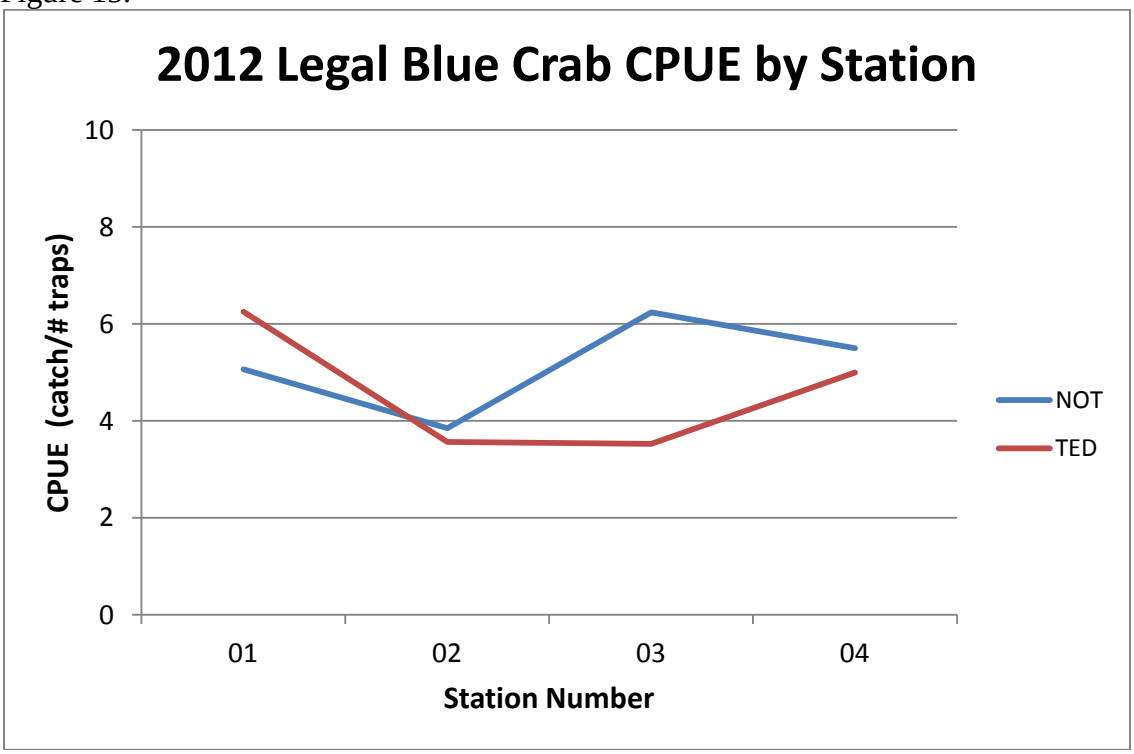


Figure 16 A.

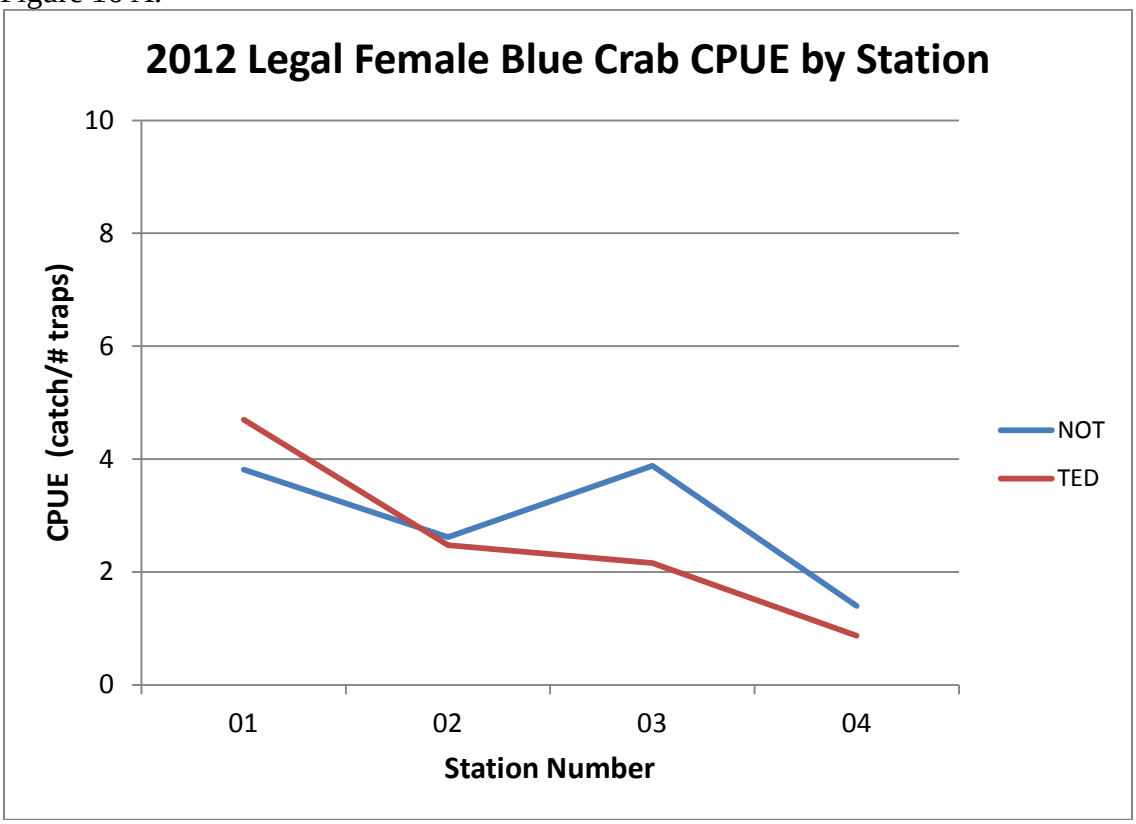
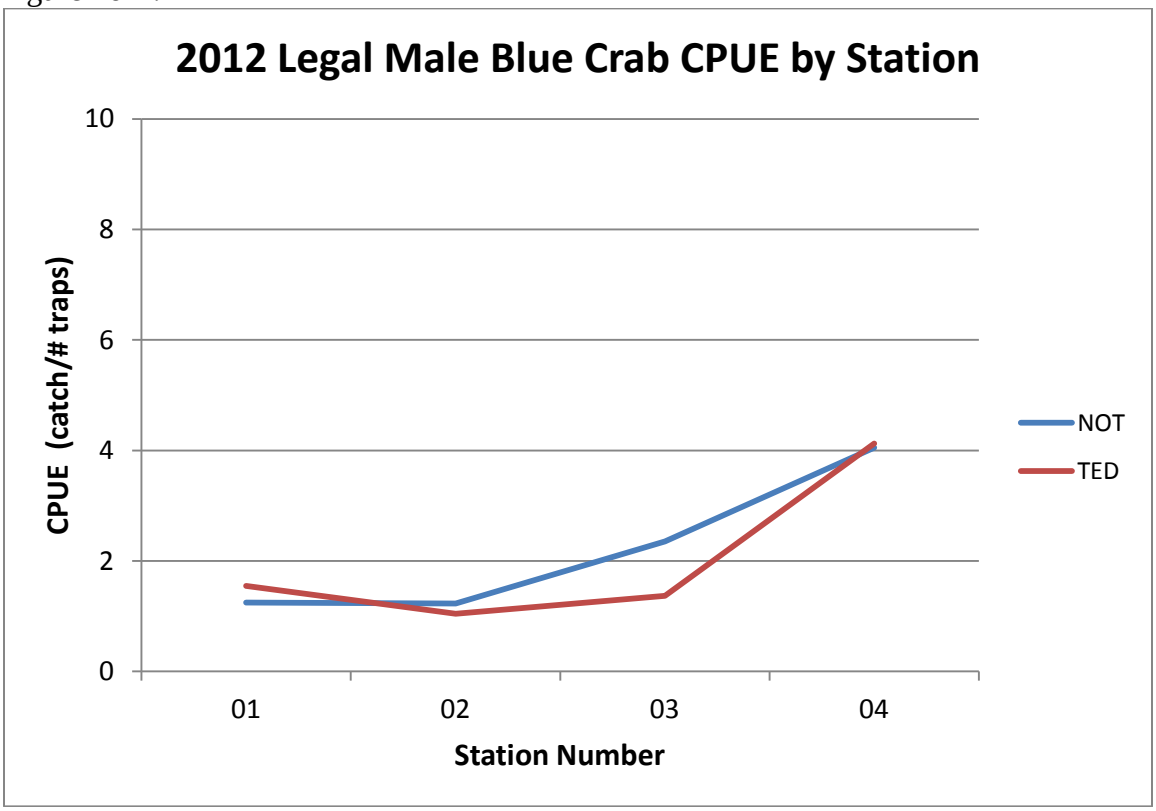
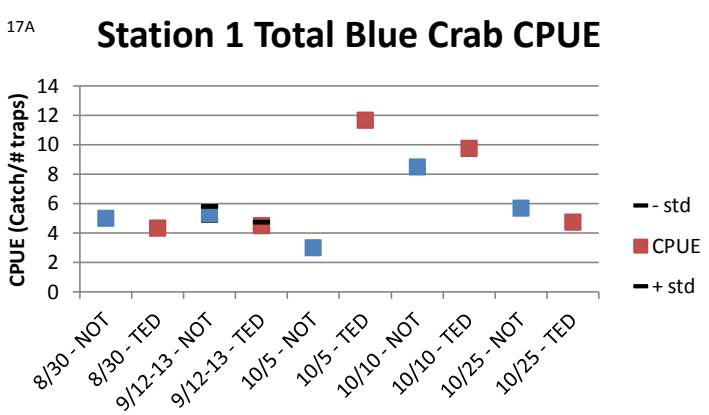
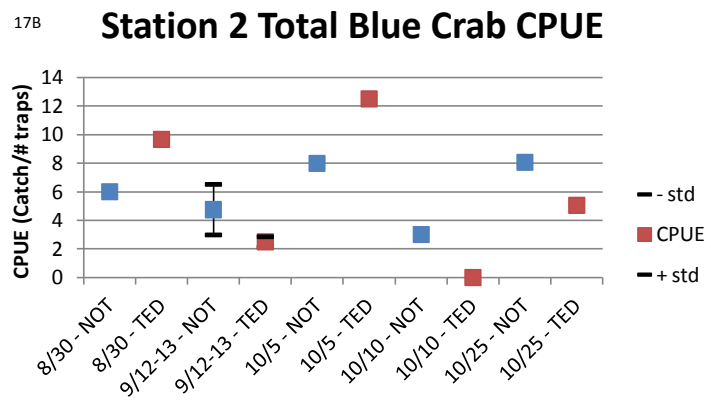


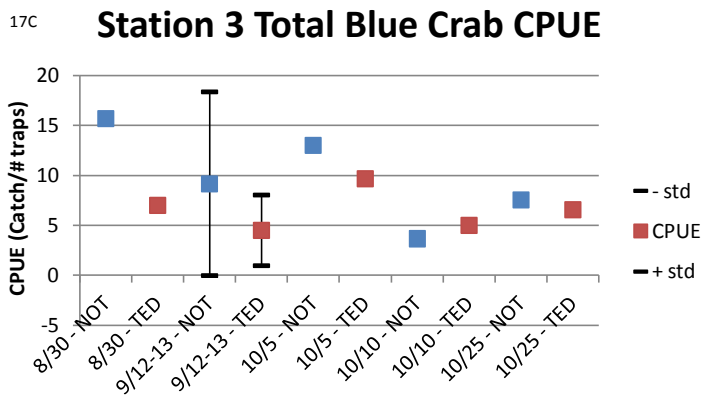
Figure 16 B.

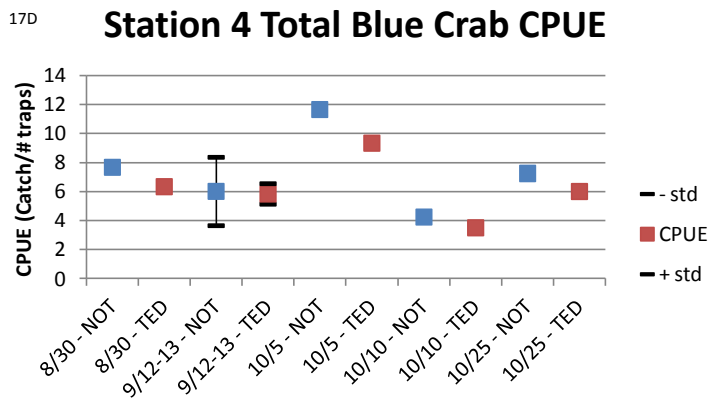


Figures 17 A - D.





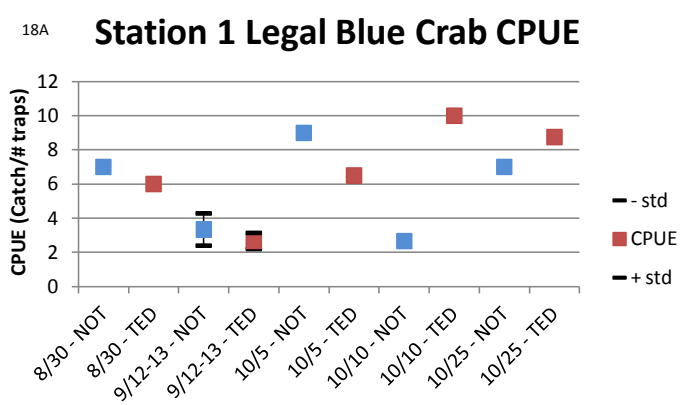


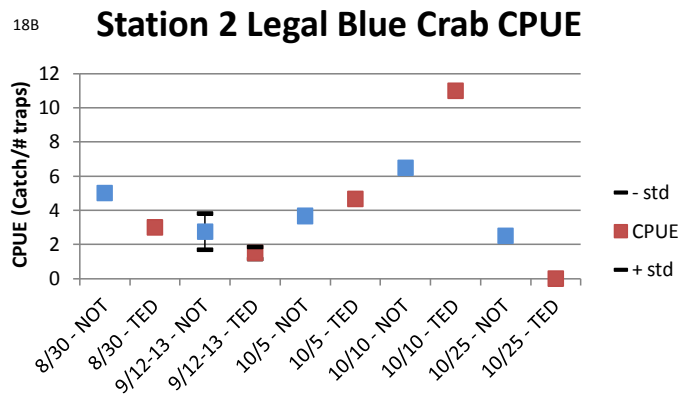


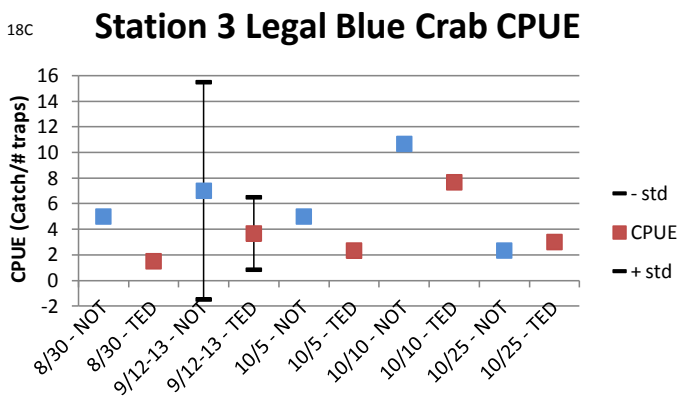
= No TED (NOT)

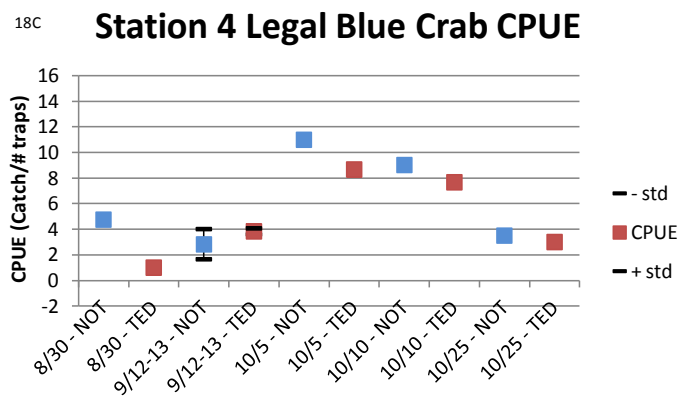
= TED

Figures 18 A - D.





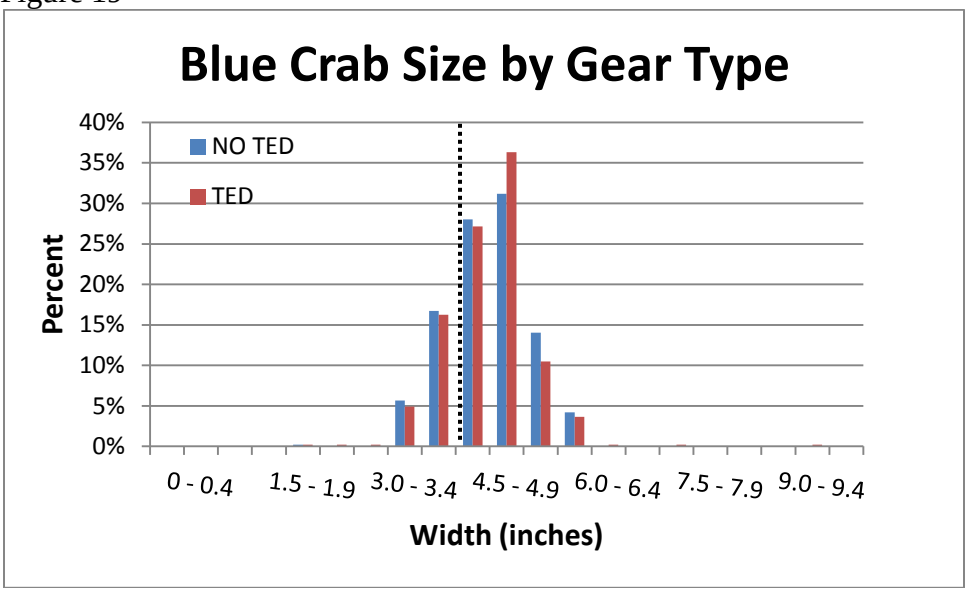




= No TED (NOT)

= TED

Figure 19



Citations:

Rossenburg, W.M.. 2001. The impact of crab pot fisheries on terrapin (*Malalemys terrapin*) populations: Where are we and where do we need to go? Conservation and Ecology of Turtles of the Mid-Atlantic Region. Pgs.23 – 30.