STATE OF RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF FISH AND WILDLIFE
MARINE FISHERIES SECTION

PUBLIC NOTICE CONCERNING PROPOSED REGULATORY CHANGES

Pursuant to the provisions of Chapters 42-17.1 and 20-3 of the General Laws of Rhode Island as amended, and in accordance with the Administrative Procedures Act Chapter 42-35 of the General Laws, the Director of the Department of Environmental Management (DEM) proposes certain amendments to the Rhode Island Marine Fisheries Regulations and gives notice of intent to hold a public hearing to afford interested parties the opportunity for public comment.

Public comment will be solicited on the following proposals:

1) Finfish Sector Management Plan for 2014;
2) Shellfish Sector Management Plan for 2014;
3) Crustacean Sector Management Plan for 2014;
4) Amendments to the RI Marine Fisheries regulations, "Commercial and Recreational Saltwater Fishing Licensing Regulations";
5) Amendments to the RI Marine Fisheries regulations "Part XV - Lobsters, Other Crustaceans, and Horseshoe Crabs", regarding LCMA 6 language (section 15.20.3);
6) Amendments to the RI Marine Fisheries regulations "Part XV - Lobsters, Other Crustaceans, and Horseshoe Crabs", regarding the management of Horseshoe Crabs (section 15.24);
7) Amendments to the RI Marine Fisheries regulations "Part X - Equipment Restrictions", regarding trawling roller gear (section 10.12);
8) Amendments to the RI Marine Fisheries regulations "Part XIX – Fish/Shellfish Dealer Regulations", regarding non-indigenous Horseshoe Crabs (section 19.15);

The public hearing will commence at 6:00 PM on **Wednesday, September 18, 2013,** at the University of Rhode Island, Graduate School of Oceanography, Corless Auditorium, South Ferry Road, Narragansett, RI 02882. The room is accessible to the disabled. Interpreter services for the hearing impaired will be provided if such services are requested at least (3) business days prior to the hearing. Requests for such services may be made in writing or by calling TTY (711) or (401) 222-5300. A recording of the hearing will be made by DEM staff. Written comments concerning the regulations proposed for promulgation by the DEM may be submitted to the Division of Fish and Wildlife, 3 Fort Wetherill Road, Jamestown, RI 02835 **no later than 12:00 PM on September 18, 2013**.

The Department has determined that small businesses may be adversely impacted by some of the proposed regulations listed above. The public hearing is being conducted to solicit comment on the proposals and to allow public input from small businesses or any cities or towns, which may be adversely affected. Small businesses which are either currently licensed or in the future may seek permission to harvest, buy, sell, or produce seafood products as well as the small businesses that provide services related to those engaged in such industries and small businesses which buy, sell, or produce products or provide services related to fishing are requested to comment on the proposed regulations on how such proposed action can be changed to minimize the impact on those small businesses affected.

A copy of the proposed regulations will be available for examination from July 16, through August 15, 2013, by mail or at the offices of the Division of Fish and Wildlife located at 3 Fort Wetherill Road, Jamestown, RI 02835. Electronic copies of the proposed regulations will also be available on the DEM website at the following web address: http://www.dem.ri.gov/programs/bnatres/fishwild/pn081513.htm.

Janet L. Coit,
Director

Public Hearing Item #2: 2014 Sector Management Plan for the Shellfish fishery.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Division of Fish and Wildlife
Marine Fisheries

2014 Sector Management Plan for the Shellfish Fishery

Developed in association with the commercial fishing
licensing provisions set forth in the
"Commercial and Recreational Saltwater Fishing Licensing Regulations"

(for the September 18, 2013 Public Hearing)

~~**November 8, 2012**~~

These rules and regulations are promulgated pursuant to Chapter 42-17.1, Section 20-1-4, Section 20-2.1 and Public Laws Chapter 02-047, in accordance with Chapter 42-35 of the Rhode Island General Laws of 1956, as amended.

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

BUREAU OF NATURAL RESOURCES

FISH AND WILDLIFE &
LAW ENFORCEMENT

Rule 1. PURPOSE
The purpose of these rules and regulations is to manage the marine resources of Rhode Island.

Rule 2. AUTHORITY
These rules and regulations are promulgated pursuant to Chapter 42-17.1, Section 20-1-4, Section 20-2.1 and Public Laws Chapter 02-047, in accordance with Chapter 42-35 of the Rhode Island General Laws of 1956, as amended.

Rule 3. ADMINISTRATIVE FINDINGS
Rules and regulations are based upon the need to modify existing regulations (RIGL 20-3-2 through 20-3-6).

Rule 4. APPLICATION
The terms and provisions of these rules and regulations shall be liberally construed to permit the Department to effectuate the purposes of state law, goals, and policies.

Rule 5. DEFINITIONS
See Rhode Island Marine Statutes and Regulations, Part I, '1.3.

Rule 6. SEVERABILITY
If any provision of these Rules and Regulations, or the application thereof to any person or circumstances, is held invalid by a court of competent jurisdiction, the validity of the remainder of the Rules and Regulations shall not be affected thereby.

Rule 7. SUPERSEDED RULES AND REGULATIONS
On the effective date of these rules and regulations, all previous rules and regulations, and any policies regarding the administration and enforcement of this regulation shall be superseded. However, any enforcement action taken by, or application submitted to, the Department prior to the effective date of these Rules and Regulations shall be governed by the Rules and Regulations in effect at the time the enforcement action was taken, or application filed.

2014 Sector Management Plan for the Shellfish Fishery

Quahaug Endorsement

Commercial Landings: There are two very distinct peaks in commercial landings of quahaugs in Rhode Island since 1947, the first occurred in 1955 followed by a rapid decline until 1974 and then a second peak in 1985 (Figure 1). Landings reached an all time low in 2009 (Figure 1) but there has been an increase in both landings and catch per unit effort since then (Figure 2). In 2012 landings totaled 3158 metric tons (6.96 million lbs, Table 1), which is a 39% increase from 2011. According to the Standard Atlantic Fisheries Information System (SAFIS) reporting system, 85% of the landings were harvested from Greenwich Bay, Conditional Areas A & B, and the West Passage of Narragansett Bay (Table 1). Most of the quahaugs landed by count are littlenecks (64%), followed by top-necks (23%), chowders (10%) and cherrystones (3%).

Resource Assessment: RI Division of Fish and Wildlife (DFW) conducts a survey of quahaugs in Narragansett Bay on an annual basis that commenced in 1993 (Ganz et al 1999). Both fished and unfished sections of the bay are sampled. The sampling consists of towing a small hydraulic dredge (0.36 meter sweep) for a distance of 30.5 meters (100 ft) at each station. Pressurized water is delivered to the dredge manifold which dislodges shellfish from the substrate. The dredge is designed to retain legal-sized quahaugs ($\geq$ 25.4mm thickness). All species retained in the dredge when hauled are identified and all shellfish are counted and measured. Based on the survey, the stratified mean density of quahaugs in Narragansett Bay has been fairly constant through the duration of the survey typically around 2-3 quahogs per square meter.

In short, the Department evaluated the quahog dredge survey design in 2006 and suggested a change from sampling the entire bay in one year to a rotational design that would accommodate additional sampling in each strata. In 2008 the Department started to implement a partially-revised survey design; however, minimal survey work was conducted in 2010-2011 due to vessel age and repair needs. In 2012 the annual survey employed a fully-reconfigured design to increase sampling in specific strata in a given year, ultimately allowing all strata to be sampled over several years rather than in a single year as in years past. In addition, research is being conducted to improve the precision of the survey by relating observed quahaug densities to mapping of submerged sediments. In general, the reconfiguration is designed to increase sampling intensity so that the number of samples per strata is sufficient to produce precise estimates of biomass by size class. In 2012 Greenwich Bay and the High Banks Management Area and surrounding waters were sampled extensively (Figure 3). At the request of industry, the High Banks Management area was opened year round beginning May 1, 2013 after it was determined that the area could sustain higher levels of harvest based upon the surveys and landings data from SAFIS.

Management Program: Quahaugs are managed entirely within state waters by the RI Department of Environmental Management (RIDEM or Department) with advice from

the Rhode Island Marine Fisheries Council (RIMFC or Council). The RIDEM, through the RI Division of Fish and Wildlife (DFW), uses a set of management areas and a rotational transplant/harvest system to manage the resource. Permanent and conditional pollution closures restrict the fishery in addition to seasons, possession limits, and management closures.

Fishery Management Goals and Objectives:

Goal: The following goal is consistent with the objectives of the Rhode Island quahaug management plan (Ganz et al. 1999).

> *Rhode Island will have a healthy bay quahaug resource and a fishery management regime which provides for sustainable harvest, cooperative management by stakeholders, and appropriate opportunities for fishery participation.*

Objectives:

1. Maintain fishing mortality rates and brood stock abundance at levels that minimize the risk of stock depletion and recruitment failure.
2. Conserve, enhance, and rebuild quahaug resources in Narragansett Bay and the coastal ponds with appropriate management strategies including transplanting, area closures, establishment of spawner sanctuaries, and daily possession limits based upon sustainability.
3. Maintain existing social and cultural characteristics of the fishery wherever possible.
4. Provide for cooperative management with industry and efficient operation, consistent with biological objectives.
5. Provide for adaptive management that is responsive to unanticipated short term events or circumstances via establishment of shellfish management areas.
6. Provide for a simple, uniform, and enforceable set of regulations.

Fishery Management and Licensing Recommendations: A new 2:1 exit/entry ratio for the quahaug fishery was implemented in 2011. In 2013 RIDEM issued 23 new quahaug endorsements for the basic commercial fishing license (CFL) which have limited harvest levels of 3 bushels per day state wide. In total, there were 79 CFL licenses that reported landings on at least one day. Of these fishermen reporting landings the average number of days fished was 46 days with an average catch of 837 quahogs per day.

In 2013 the Department issued 376 Principal Effort Licenses (PEL) with quahaug endorsements compared to 398 in 2011, a decrease of 22 licenses. Principal effort license holders with quahaug endorsements have access to full harvest levels. Of the 376 PEL licenses issued 204 licenses reported landing quahogs on at least one day. Of those reporting landings the average number of days fished was 70 days with an average of 1055 quahogs landed each day. In addition, 829 multipurpose licenses were issues in 2013 which also have access to full harvest levels. There were 217 multipurpose license

holders who reported quahog landings on at least one day and the average number of days fished amongst these fishermen was 67 days with an average of 1000 quahogs landed each day.

There are two additional license categories that are not subject to the 2:1 exit:entry ratio and are restricted to basic harvest levels. Student shellfish licenses decreased by 1 (from 49 in 2012 to 48 in 2013) but only 15 of these licenses reported any landings in 2012. The average number of days fished by this license group was 29 days and the daily average catch was 820 quahogs. Over 65 shellfish licenses increased by 28 (240 in 2012 to 268 in 2013). Only 19 of these license holders reported any landings in 2012 and the average number of days fished by this license group was 17 days. The average daily catch was 606 quahogs.

The provision set forth in section 6.7-4 (h) was continued in 2013 allowing an actively fishing basic commercial fishing license holder with a quahaug endorsement to upgrade to a principal effort license with a quahaug endorsement and an actively fishing student shellfish license holder to upgrade to a basic commercial fishing license with a quahaug endorsement after two years of reporting landings and no violations.

DFW believes that the number of individuals that are licensed to fish in this fishery and the number of active fishers is more an industry-based economic issue than a resource management issue. As such, the number of people participating in the fishery is becoming less relevant from a resource management perspective.

RI Marine Fisheries Council Advice - The Industry Advisory Committee (IAC) of the RIMFC, required under RIGL 20-2.1-11, met to formulate advice for the Council on licensing and recommended status quo for the quahaug fishery in 2014. To continue to apply a 2:1 exit/entry ratio to all eligible licenses (MPLs + PELs with a quahaug endorsement) that retired in 2012. This would allow 28 new Commercial Fishing Licenses (CFLs) with a quahaug endorsement to be made available for 2014.

[THIS SECTION TO BE DETERMINED, TEXT LEFT FOR CONSISTENCY] The RIMFC recommended remaining with the status quo as recommended by the IAC which would allow 23 new Commercial Fishing Licenses (CFLs) with a quahaug endorsement to be made available for 2014.

Future Management Considerations and Recommendations: RIDEM needs to continue to work with industry to ensure a healthy quahaug fishery consisting of resource sustainability and a licensing system that will maintain an active group of fishermen and facilitate entry of new participants.

Improvements in the landings data collection system along with DFW resource surveys will provide for accurate evaluation of standing stock and allow for sound management. Acquisition of fishery landings by market class and tagging areas may allow for area specific assessment and management. The ability of DFW to manage the resource would be further increased by improved compliance with reporting tagging areas

accurately and by increasing the number of tagging areas. Fishery selectivity will be directly estimable and biological reference points can be refined to manage size composition in the harvest and spawning stock. In concert with transplanting and spawner sanctuaries, area specific regulations would be possible.

The Narragansett Bay Commission's combined sewer overflow project combined with more-intensive water quality monitoring by RIDEM Office of Water Resources (OWR), has resulted in water quality improvements in the Providence River as well as a decreased number and duration of rainfall-induced closures in Conditionally Closed Areas "A" and "B". The high densities of quahaug broodstock observed in the Providence River combined with prior rainfall-induced closures in the Conditionally Closed Areas have resulted in a significant and sustained level of harvest. In order to sustain this harvest, it is recommended that an area-specific management plan be developed and implemented for the Providence River, Conditional Area "A", Conditional Area "B" and the recently established "Conimicut Triangle". Alternatives include, but are not limited to, establishing new shellfish management areas, establish area-specific fishing periods, and adopting realistic possession limits. Establishment of "shellfish management areas" throughout RI coastal waters and comprehensive regulations would allow improved management by RI DEM and increased flexibility.

Soft-shell Clam Endorsement

Commercial Landings: Commercial landings of soft-shell clams in Rhode Island showed an increasing trend from the early 1980's until 2007 (Figure 4) but in recent years have been in decline (Figure 5). Soft shell clams were down 77% statewide this year when compared to last year. With the introduction of SAFIS, landings data have been coded by area allowing for evaluation of landings by area (Table 2) and by catch per unit effort (Figure 5). In a departure from recent years the majority of landings came from the Coastal Ponds comprising 65% of the landings statewide. The harvest in the upper portions of Narragansett Bay was down to only 3% of the landings observed in 2011.

Resource Assessment: Soft-shell clam resources are distributed from inter-tidal to sub-tidal zones of Narragansett Bay and the coastal ponds and estuaries with the bulk, estimated at about 86%, located in the Upper Narragansett Bay, particularly in the Conimicut Point area. In recent years, due to the successful results from the Narragansett Bay Commission's combined sewer overflow project, measurable water quality improvements were recorded in the Providence River resulting in a substantial reduction in the number of rainfall-induced closures in Conditionally Closed Areas "A" and "B" and opening of new areas, such as the new soft-shell clam grounds in the Conimicut Pt Area called the "Conimicut triangle". The Conimicut triangle area opened on June 13th, 2010 with the only change to the existing regulations consisting of increasing the minimum size from 1 ½" to 2". The daily catch limit of 12 bushels was not changed resulting in the biomass being depleted to less than 1/10th it's former abundance, and follow up surveys in the fall of 2011 showed astoundingly low densities (Gibson 2012).

Despite the dramatic reductions in abundance the Conimicut Point area attracted new fishing effort for about 468 licensed fishermen holding a soft-shell endorsement and 868 Multi-purpose licenses, which is beyond the level of sustainability (Gibson 2012).

A dynamic depletion model for open populations based on the work of Restrepo (2001) and Sosa-Cordero (2003) was recently developed and applied to monthly catch and effort data for the period 2006 to 2011 (Gibson 2012). The preliminary depletion model results suggest that the population is declining from 2006 to present with recruitment failing to replace fishery removals (Gibson 2012). Although the model could benefit from another year of data, present results suggest that the recent increase in minimum size will not by itself stop overfishing and catch limits may need to be reduced to < 3 bushels per day to bring fishing mortality rate into balance with resource productivity (Gibson 2012).

In 2012 the Department continued with survey work in the Conimicut Point Management Area and the coastal ponds as done in previous years. Preliminary results from 2011 sampling suggest a dramatic decline in soft-shell clam densities in the Conimicut Point Management Area; however, further analyses of survey data are required.

Fishery Management and Licensing Recommendations: Soft-shell clams are managed entirely within state waters by RIDEM with advice from the RIMFC. For 2008, in response to increased landings and evidence of population decline in upper Narragansett Bay, RIDEM limited the number of eligible participants in the fishery to the level present in 2007. The RIDEM issued 163commercial fishing licenses and 235 principle effort licenses with soft-shell clam endorsement for 2013 with 11 new CFL licenses with soft shell endorsements issued.. Other restrictions in the fishery include permanent and conditional pollution closures, seasons, establishment of Conimicut Shellfish Management Area, a daily possession limit reduction from 12 bushels per day to 3 bushels per day in the area, a recent minimum size increase to 2 inches statewide.

RI Marine Fisheries Council Advice - The Industry Advisory Committee (IAC) of the RIMFC, required under RIGL 20-2.1-11, met to formulate advice for the Council on licensing and recommended status quo for the soft-shell clam fishery in 2014. To continue to apply a 5:1 exit/entry ratio to all retired licenses (MPLs + PELs w/SS + CFLs w/SS endorsement) that retired in 2013. This would allow 11 new Commercial Fishing Licenses (CFLs) with a soft-shell clam endorsement to be made available for 2014.

[THIS SECTION TO BE DETERMINED, TEXT LEFT FOR CONSISTENCY] The RIMFC recommended remaining with the status quo as recommended by the IAC which would allow 11 new Commercial Fishing Licenses (CFLs) with a soft-shell clam endorsement to be made available for 2014.

Future Management Considerations and Recommendations: The Narragansett Bay Commission's combined sewer overflow project combined with more-intensive water quality monitoring by RIDEM OWR, has resulted in further water quality improvements in the Providence River as well as decrease the number of rainfall-induced closures in Conditionally Closed Areas "A" and "B". In 2013 RIDEM OWR again modified the boundaries and rainfall thresholds of Conditional Area C (the Conimicut triangle). In 2012 Conditional Area C was closed to shellfish harvesting 53% of the year and 70% of

the warm-weather months (May-September). Landings of soft-shell clams at Conimicut Point area have declined significantly since the overfishing that took place in 2010 and there were NO landings reported in the Conimicut Triangle for 2012, although it is suspected that some landings did occur and were misreported as Conditional Area B. Stocks could further decline without implementation of more realistic and sustainable management measures. The isolated characteristics of the Conimicut Point fishery make the clams particularly vulnerable to variations in fishing effort. Additionally, a permanent pollution closure line bisecting the bed makes enforcement problematic.

Establishment of comprehensive restrictions against the use of mechanical harvest, and/or air-assisted, and water-assisted harvest methods for all species in Narragansett Bay and the salt ponds with provisions for certain fisheries would aid in protecting soft-shell clam stocks. Individuals fishing for razor clams have been observed either harvesting soft-shell clams with water pumps and air compressors or facilitating harvest by others through substrate disturbance. These methods facilitate rapid shellfish harvest and make enforcement problematic.

Alternatives to protect this fishery include, but are not limited to, establishing new shellfish management areas, establishment of area-specific fishing periods, adoption of reduced possession limits statewide, and maintaining the minimum legal size of 2 inches. Measures should be implemented for the Providence River while the aforementioned pollution-closure boundary at Conimicut Point is in effect.

Whelk Endorsement

Recently, DFW conducted a new comprehensive analytical assessment on whelk resources in RI (Gibson 2010). This work constitutes the first attempt to assess the status of whelk and their fishery in Rhode Island waters. As such, it addresses statutory requirements for sustainable shellfish management plans (RIGL 20-2-44) and duties of the Director to develop fishery management plans in support of commercial licensing (RIGL 20-2.1-9(5)).

Commercial Landings: A commercial fishery for whelks has existed in Rhode Island for many years; however, until September 2009 it was not regulated or the subject of a stock assessment. There are two species commonly landed in RI, the channeled (*Busycotypus canaliculatus)* and knobbed (*Busycon carica)* Whelk. According to National Marine Fisheries Service (NMFS) statistics, RI whelk landings were 85,000 pounds of meat weight in 1950 and increased over time to a peak in 1986 at 347,000 pounds. After several years of high landings, the fishery declined rapidly and from 1994 to 2003, when reported landings were less than 2,200 pounds. Since 2006, whelk landings by species have been monitored through the SAFIS reporting system, which captures landings from both state and federally permitted fishers. From 2006-2011 commercial whelk landings averaged 545,921 pounds and are almost exclusively (96%) channeled whelk. A sharp increase in whelk landings occurred from 2008 to 2009, with years 2006-2008 averaging 384,489 pounds annually and years 2009-2011 averaging 707,353 pounds annually

(Figure 6). The number of fishers reporting whelk landings and the average whelk landings per fisher also shows an increasing trend during the 2006-2011 time period, although the average whelk landings per fisher decreased in 2011 (Figure 7). Ex-vessel value of whelks from 1950 to 1976 was steady at about $1.25 per pound of meat. It then increased sharply from $1.27 to $3.24 from 1976 to 1983. From 2004 to 2008, value has fluctuated around $3.00 per pound (Gibson 2010).

Resource Assessment: On the basis of Biomass Dynamic Model observations, it was concluded that F_{msy} =0.33 is an appropriate overfishing reference point for whelk in Rhode Island and an F=0.25 would be an appropriate fishing mortality target providing a buffer between the overfishing threshold. Current F rate is at or below this level indicating that overfishing is not occurring (Gibson 2010). Biomass was estimated to be near the B_{msy} reference level so an overfished condition is not likely. In addition, a Yield
Per Recruit (YPR) analysis indicated that the recently enacted minimum size of 2.5" shell width would produce little benefit to spawning stock biomass since the fishery harvests few animals smaller and some remain immature at 2.5". A second increase to 2.75" shell width would increase SSB/R levels about 7% at current F and provide a pre-cautionary buffer against recruitment declines without reducing fishery yield much. An increase to 3.0" shell width would produce a more substantive increase in SSB/R (23%) but with an YPR loss of 15%. The fishery seems to have operated in a pulse fishing mode with periodic increases in abundance that attracted fishing effort. High fishing mortality rates ensued (1960's, 1980's), the stock declined, effort dissipated, and a biomass recovery followed. A minimum size limit alone cannot prevent reoccurrence of these fishing pulses. To avoid opportunistic expansions in effort, consideration will need to be given to effort limitation via license/permitting or through output controls such as catch limits and quotas (Gibson 2010).

Fishery Management and Licensing Recommendations: Whelks are managed entirely within state waters by the Department. To avoid opportunistic expansions in effort, a new endorsement directed at whelk fishing was added to the licensing system for 2012. The goal of the new endorsement is to cap and monitor effort through the use of the endorsement category and avoid future boom and bust cycles that were observed over recent years (Gibson 2010). Other management measures should be considered to control output to limit fishing mortality such as quotas, daily possession limits, closed seasons, and a minimum size based upon sexual maturity. A comprehensive whelk fishery sampling program was conducted by DFW during 2012 and the results of data analyses may be considered for future whelk fishery management plan strategies. The RIMFC Ad Hoc Whelk Committee met in November 2011 and recommended a license moratorium on new whelk endorsements for the 2013 licensing year, which was adopted and implemented based on the Industry Advisory Committee (IAC) support of the proposal described in the following section.

RI Marine Fisheries Council Advice - The Industry Advisory Committee (IAC) of the RIMFC, required under RIGL 20-2.1-11, met to formulate advice for the Council on licensing and supported a proposal to allow holders of a valid Commercial Fishing License (CFL) or Principal Effort License (PEL) with a Quahaug and/or Soft-Shell Clam

endorsement, as of the immediately preceding year, would be eligible to obtain a Whelk endorsement in 2014.

[THIS SECTION TO BE DETERMINED, TEXT LEFT FOR CONSISTENCY] The RIMFC recommended no new whelk endorsements, except to allow those "actively fishing" commercial fishing license (CFL) or principal effort license (PEL) holders with a quahaug and/or a soft-shell clam endorsement as of the immediately preceding year (2012) to obtain a whelk endorsement in 2013. (Note: "Active Fishing" meaning fished at least 75 days in the preceding two calendar years).

Other Shellfish Endorsements

Other species of shellfish commercially harvested within Rhode Island waters include oysters, blue mussels, and razor clams. While these species are not routinely assessed by RI DFW and little data is available to conduct comprehensive analytical assessments, landings data and anecdotal evidence from the commercial fishing industry are useful pieces of information in identifying populations that warrant further research.

Commercial Landings: Regarding the oyster stock, landings have decreased since the late 1990's. In 2012 248,000 wild oysters (43,163 pounds) were landed in RI. To put this number in perspective, the aquaculture industry in Rhode Island (50 farms) sold 4.3 million oysters in 2012. Therefore only 5% of the oysters from Rhode Island are from wild harvest. According to local researchers studying oyster populations within Narragansett Bay, the effects of disease, environmental conditions, poor sets of new recruits, and fishing pressure are all responsible for the sharp decline in abundance levels (Oviatt et Al. 1998). It is a reasonable assumption that given such high rates of natural mortality, fishing pressure can lead to local depletions of the resource. Recently dead oysters (open shells) are visual evidence of the effects of oyster disease. This occurs in both fished and unfished RI waters. Further investigation into the effects of fishing effort is certainly warranted; however, until the extent of the influence that fishing effort and poor recruitment has on abundance is ascertained DFW recommends reducing the daily possession limit accordingly. Establishment of new spawner sanctuaries and harvest moratoria are considered important components of the collaborative oyster-restoration efforts that are underway. Initiating further research and monitoring to track abundance and recruitment success is needed.

Management Program- oysters and blue mussels are managed in state waters by the RIDEM with advice from the RIMFC. Additional federal regulations apply to surf clams and ocean quahaugs in federal waters. The Department uses seasons and possession limits to manage the state waters fishery. Permanent and conditional pollution closures further restrict the fishery in addition to the above management measures. The Department in cooperation with both federal government and non-government organizations has been conducting oyster restoration in the salt ponds and Narragansett Bay.

In 2006, the Natural Resources Conservation Service (NRCS) provided funding for a statewide oyster restoration project to help increase the spawning and recruitment levels

sufficient to reestablish a self-sustaining oyster population. RI DEM is overseeing and authorizing the placement of the stocked oysters into the state's waters. Currently, there are six established shellfish spawner sanctuaries in state waters with habitat suitable for placement of the oysters. They are in designated portions of Winnapaug and Ninigret Ponds, Potters Pond, Jenny's Creek, and Bissell cove. The Nature Conservancy (TNC) is also assisting with restoration efforts. A current proposal is to place clean surf clam shell in the spawner sanctuaries of established shellfish management areas. The culch would provide a substrate for juvenile attachment.

Licensing Options and Recommendations- No changes are recommended for the licensing program for shellfish that fall under the non-quahaug endorsement category excluding soft-shell clams and whelks until better data is available on their status. It is also recommended that new commercial licenses continue to have basic harvest levels equal to current licensees for this endorsement.

Shellfish Harvesting Methods Clarification

Current harvesting regulations were developed and implemented to facilitate harvest of specific shellfish species of economic interest to the commercially fishing community. Permissible harvest methods were implemented with the intent of minimizing habitat impacts and protecting juvenile stocks while allowing a reasonable harvest. As demand has developed for alternative species of mollusks, crustaceans, and finfish; requirements relating to fishing methods have remained stagnant.

Species-specific regulatory language has resulted in commercial fishing activities targeting unregulated (or under-regulated) species. Industry has interpreted existing regulatory language to mean that harvest of unregulated species is permissible by fishing methods considered too intrusive or unsuitable by RIDFW. Examples include: dredging for whelk, horseshoe crabs (and other unregulated species) and the use of mechanical harvest methods (including air-assisted and water-assisted methods) in pursuit of razor clams and mantis shrimp in direct proximity to regulated species and inside established pollution closures. The species-specific regulations tie the hands of law enforcement. The insufficiencies also make proper resource management and habitat protection problematic.

Regulations need to be crafted that address omissions and insufficiencies in the regulations that do not prevent these activities (and associated impacts) while facilitating intended fishing opportunities.

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Table 1. RI commercial quahaug landings (A= numbers and B= lbs) for 2012 by shellfish tagging area (broad areas) and market category.

A

Shellfish Tagging Areas	Individual Quahogs Landed by Market Size				Total	% of
	Littleneck	Top Neck	Cherry	Chowder	*(#)*	Total
Unknown	190,636	47,514	2,595	30,590	*270,835*	0.7%
RI 1A - Conditional Area A	5,383,122	2,368,162	143,396	1,343,694	*9,238,373*	23.6%
RI 1B,C - Conditional Area B & C	5,329,248	1,871,600	286,147	685,371	*8,172,366*	20.9%
RI 2 - Greenwich Bay	3,974,477	1,255,244	270,150	125,254	*5,625,124*	14.4%
RI 3A,C,F,H - West Passage Management Areas	219,936	66,970	27,488	18,436	*332,829*	0.9%
RI 3W - West Passage	6,934,347	1,955,000	419,831	811,457	*10,120,635*	25.9%
RI 4A,B - East Passage	2,612,037	1,194,996	59,836	792,288	*4,659,157*	11.9%
RI 5A,K - Mount Hope Bay	50,458	35,824	0	37,860	*124,142*	0.3%
RI 5B - Sakonnet River	123,116	37,478	0	58,553	*219,147*	0.6%
RI 6B,N,P,Q,W - Coastal Ponds & Block Island	225,922	48,730	975	25,814	*301,440*	0.8%
Grand Total	**25,043,298**	**8,881,325**	**1,210,416**	**3,929,316**	**39,064,548**	-

B

Shellfish Tagging Areas	Pounds (lbs) Landed by Market Size				Total	% of
	Littleneck	Top Neck	Cherry	Chowder	*(lbs)*	Total
Unknown	27,234	8,263	577	12,236	*48,310*	0.7%
RI 1A - Conditional Area A	769,017	411,854	31,866	537,477	*1,750,215*	25.1%
RI 1B,C - Conditional Area B & C	761,321	325,496	63,588	274,149	*1,424,554*	20.5%
RI 2 - Greenwich Bay	567,782	218,303	60,033	50,101	*896,220*	12.9%
RI 3A,C,F,H - West Passage Management Areas	31,419	11,647	6,108	7,374	*56,549*	0.8%
RI 3W - West Passage	990,621	340,000	93,296	324,583	*1,748,500*	25.1%
RI 4A,B - East Passage	373,148	207,825	13,297	316,915	*911,186*	13.1%
RI 5A,K - Mount Hope Bay	7,208	6,230	0	15,144	*28,582*	0.4%
RI 5B - Sakonnet River	17,588	6,518	0	23,421	*47,527*	0.7%
RI 6B,N,P,Q,W - Coastal Ponds & Block Island	32,275	8,475	217	10,326	*51,291*	0.7%
Grand Total	**3,577,614**	**1,544,612**	**268,981**	**1,571,726**	**6,962,933**	-

Table 2. RI commercial soft-shell clam landings (lbs) for 2008-2012 by shellfish tagging area.

Shellfish Tagging Areas	2008	2009	2010	2011	2012	% Δ '11-'12
Unknown	8,820	46,169	7,922	183	1,134	519.4%
RI 1A - Conditional Area A	519,762	351,635	138,754	66,576	2,371	-96.4%
RI 1B,C - Conditional Area B & C	-	-	498,901	46,476	192	-99.6%
RI 2 - Greenwich Bay	5,704	4,182	70	358	286	-20.1%
RI 3 - West Passage	151,825	72,660	36,227	16,745	10,377	-38.0%
RI 4 - East Passage	4,856	5,636	2,692	19,400	377	-98.1%
RI 5 - Sakonnet River & Mount Hope	860	1,930	427	394	97	-75.4%
RI 6 - Coastal Ponds	22,333	12,421	13,602	33,619	27,053	-19.5%
Grand Total	**714,160**	**494,633**	**698,595**	**183,751**	**41,887**	**-77.2%**

Figure 1. Shell weight (metric tons) of quahaugs commercially landed in Rhode Island from 1946 – 2012.

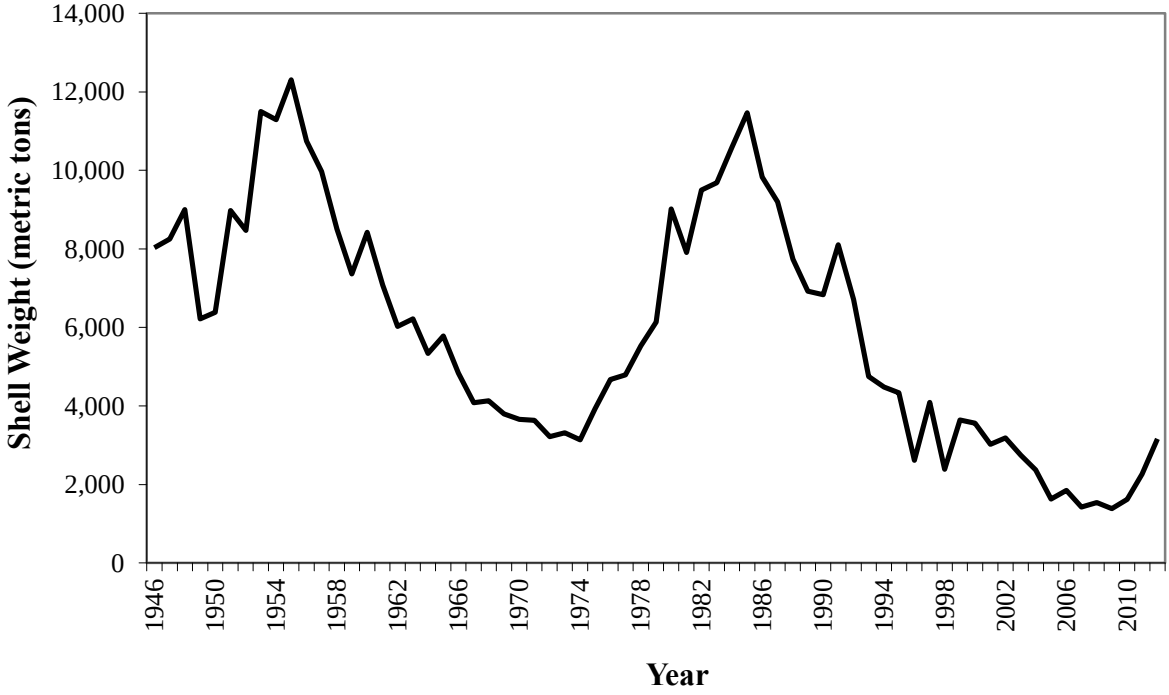


Figure 2. RI commercial quahaug landings in million pounds of shell weight and catch per unit effort (CPUE) from 2006-2012. CPUE was calculated as the total number of SAFIS trips divided by total pounds landed per year.

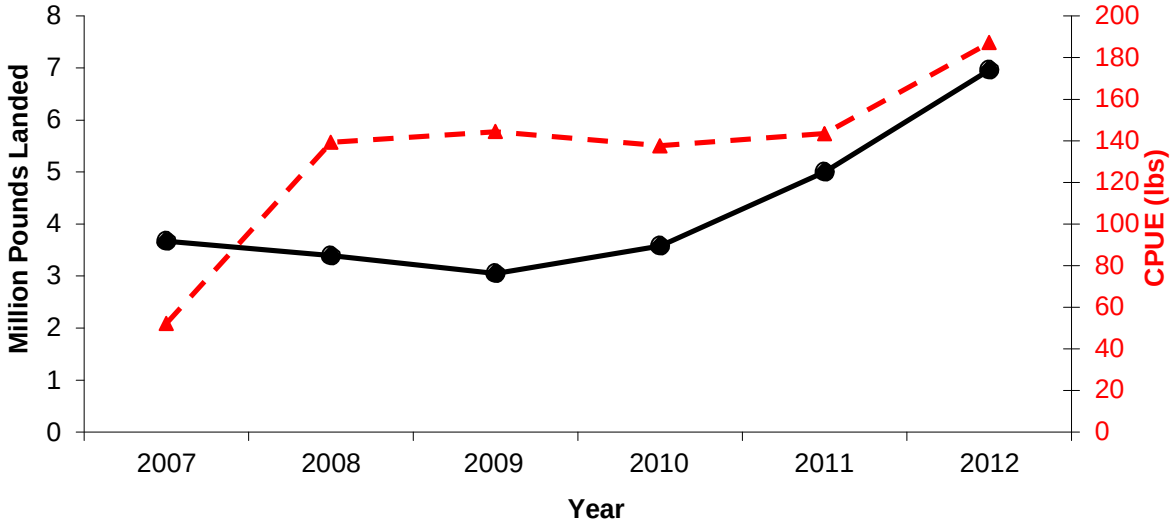


Figure 3. Recent sampling locations and survey strata in Narragansett Bay as measured by RI DEM Fish and Wildlife's hydraulic dredge survey (2005-2012)

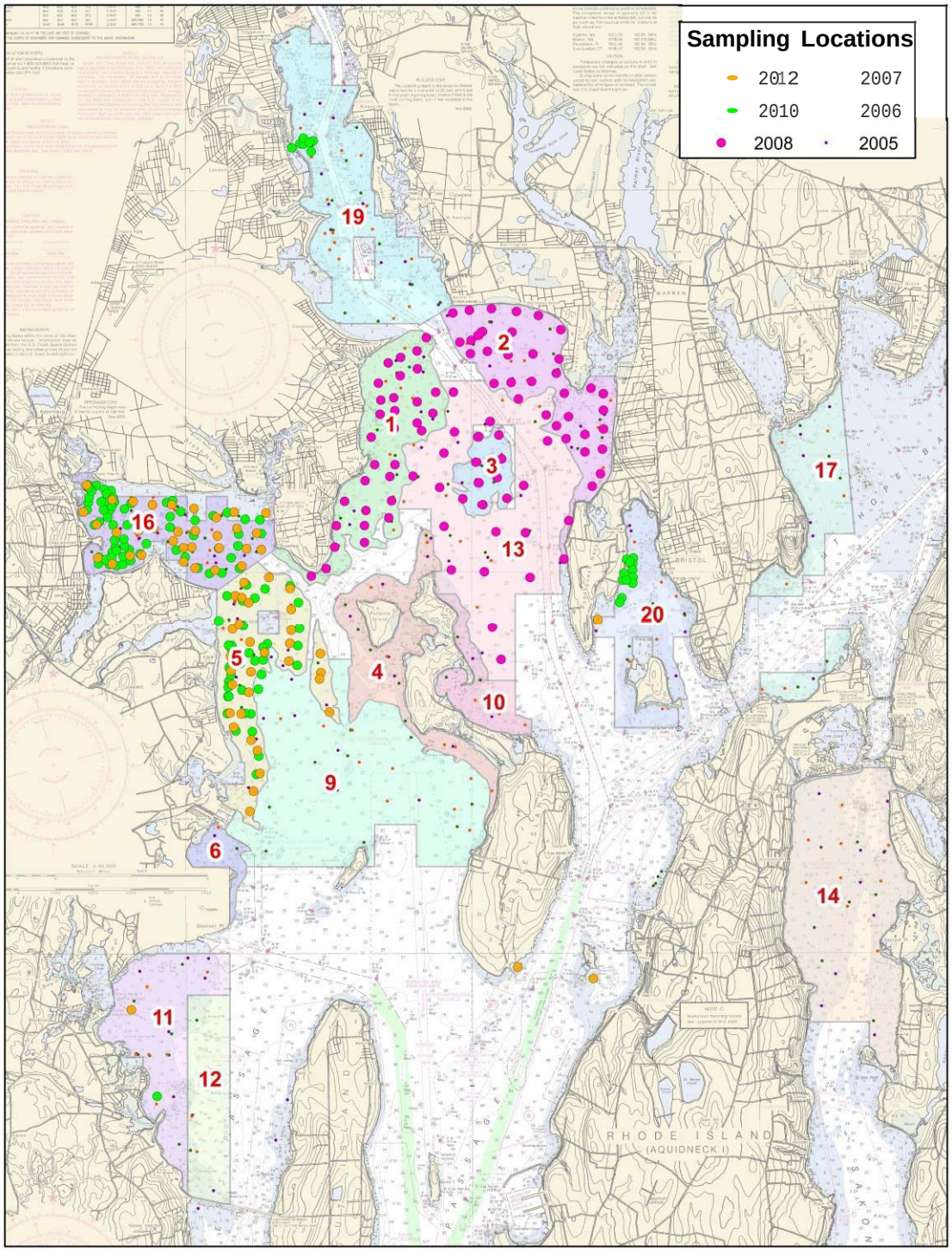


Figure 4. RI commercial soft-shell clam landings (shell weight, metric tons) from 1945-2012.

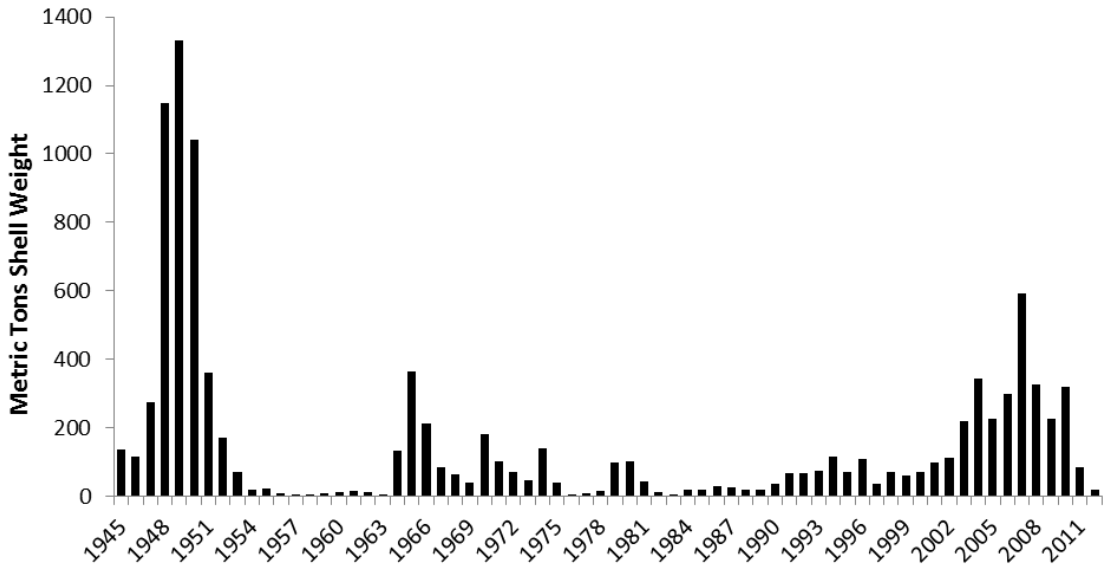


Figure 5. RI commercial soft-shell clam landings and catch per unit effort (CPUE) from 2006-2012. CPUE was calculated as the total number of SAFIS trips divided by total pounds landed per year.

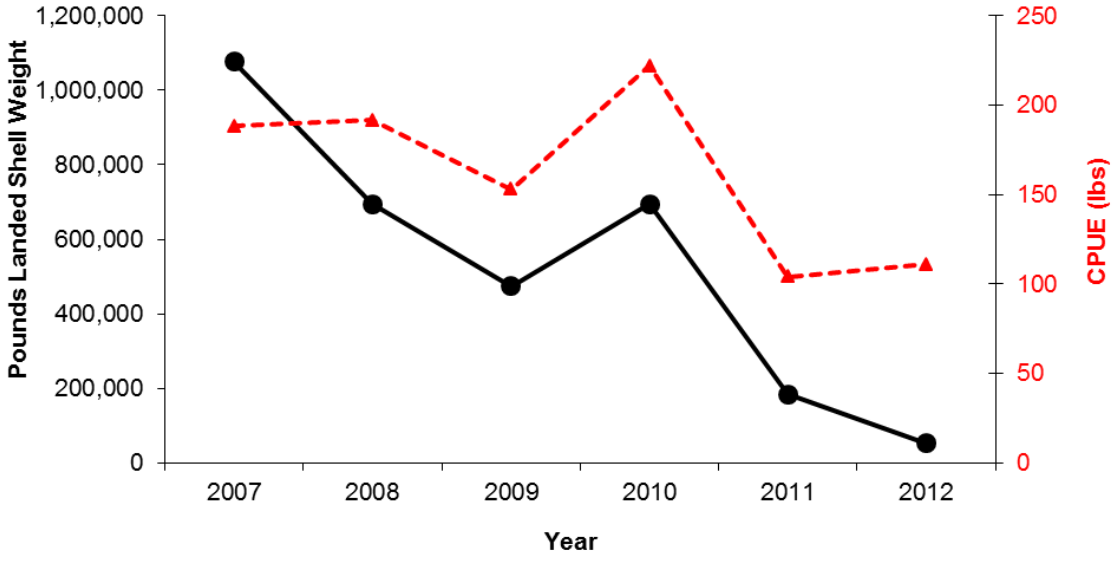


Figure 6. RI commercial whelk landings (species combined) for 2006-2012.

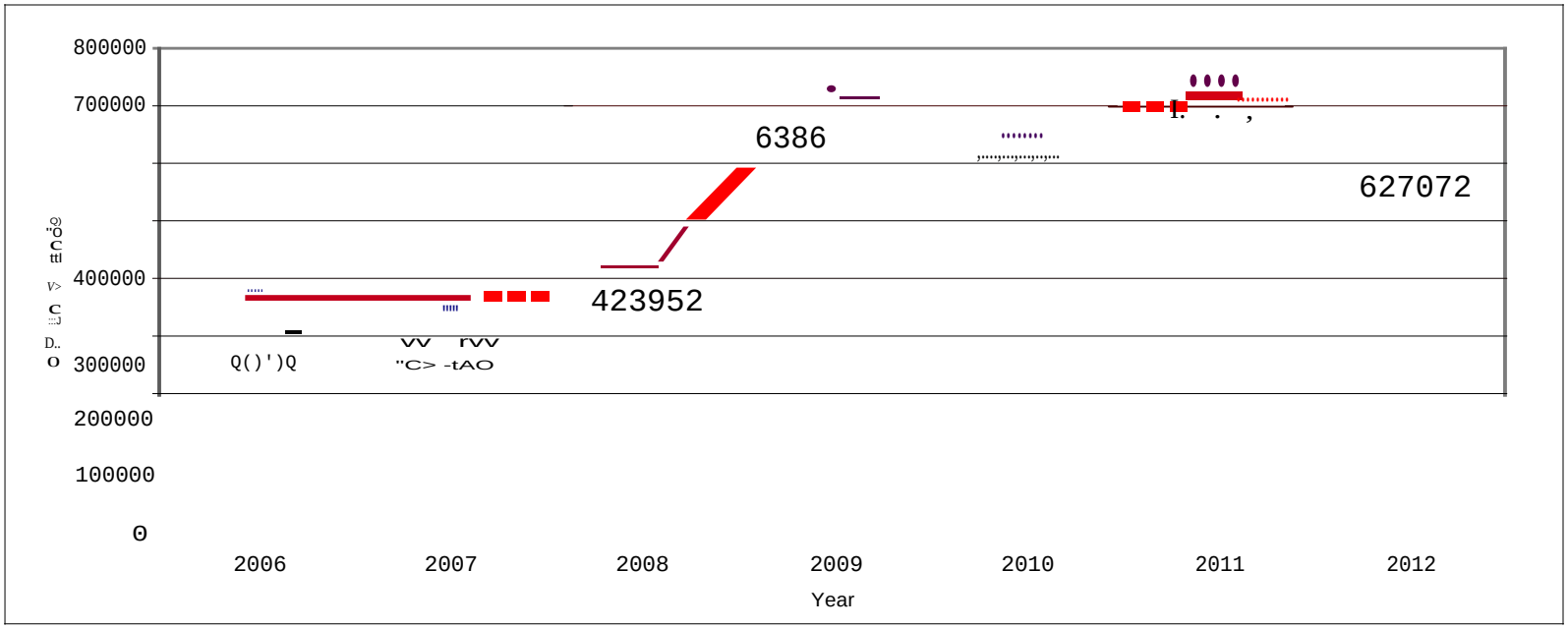
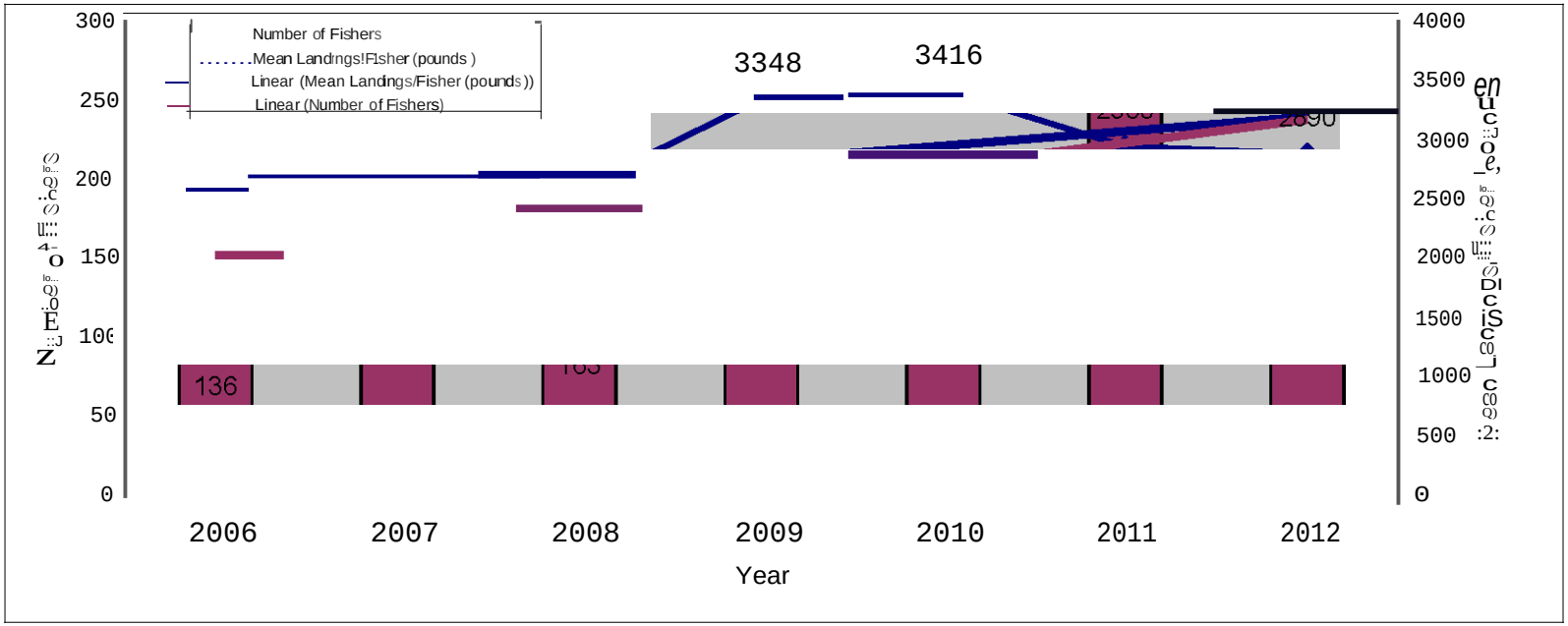


Figure 7. Number of reported fishers active in the fishery, mean landing per fisher, and linear trend for number of fishers active and mean landing per fisher in the RI commercial whelk fishery from 2006-2012.



Rule 8. EFFECTIVE DATE

The foregoing rules and regulations Rhode Island Marine Statutes and Regulations, after due notice, are hereby adopted and filed with the Secretary of State this ~~8th day of November, 2012~~ to become effective 20 days from filing, unless otherwise indicated below, in accordance with the provisions of Chapter 42-17.1, Section 20-1-4, Section 20-2.1 and Public Laws Chapter 02- 047, in accordance with Chapter 42-35 of the Rhode Island General Laws of 1956, as amended.

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Janet L. Coit, Director
Department of Environmental Management

Notice Given: ~~08/09/2012~~
Public Hearing: ~~09/12/2012~~

Filing date: ~~11/08/2012~~
Effective date: ~~11/28/2011~~

ERLID# ~~7038~~