STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Division of Fish and Wildlife
Marine Fisheries

2011 Management Plan for the Shellfish Fishery Sector

Developed in association with the
commercial fishing licensing provisions set forth in the
"Rules and Regulations Governing the Management of Marine Fisheries"

December 29, 2010

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

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

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.

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

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.

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

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.

SUPERSEDED RULES AND REGULATIONS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rules and regulations, and any policies regarding the administration and enforcement of this regulation shall be superseded.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.

Management Plan for the Shellfish Fishery Sector

Quahog Endorsement

Commercial Landings: There are two very distinct peaks in commercial landings of quahogs in Rhode Island since 1947 (Figure 1). The first occurred in 1955 followed by a rapid decline until 1974 and then a second peak in 1985. The landings have since declined reaching their lowest levels in most recent years. In 2009, 226 metric tons (meat weight) were harvested, the lowest amount for the time series and only 12% of landings in 1985. The decline in landings since 1985 is due to several factors including the implementation of possession limits and seasons, reduction of fishable areas due to pollution closures, limited number of licenses available and reduction in the number of participants. According to the SAFIS reporting system, majority of the landings by count were harvested from Greenwich Bay, Conditional Areas A & B, and the West Passage of Narragansett Bay (Table 1). In 2009, 83% of the landings were from these areas. Most of the quahogs landed by count are littlenecks, followed by top-necks, chowders and cherrystones.

Resource Assessment: RIDFW conducts a survey of quahogs 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 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 (> 25mm). 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 quahogs in Narragansett Bay declined since 1997 to 2003 and then increased gradually to 2009. Minimal survey work was conducted in 2009 due to a vessel break-down. Proxy values for 2009 were estimated by ratio using the SAFIS cpue data by market class for years (Gibson, 2010). We concluded that the annual bayside survey will be reconfigured to concentrate on specific areas of concern on a rotational basis. Sampling intensity will be sufficient to produce precise estimates of biomass by size class. Surveys will include pollution closed areas and spawner sanctuaries. In addition, research is being conducted to improve the precision of the survey by relating observed quahaug densities to mapping of submerged sediments.

It is apparent that the availability of new commercial licenses in recent years has not caused a rise in landings, rather landings continue to decline with the lowest levels of the time series occurring in 2009.

Management Program: Quahogs are managed entirely within state waters by the Department of Environmental Management with advice from the Rhode Island Marine Fisheries Council. The Department, through the RIDFW, 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 quahog management plan (Ganz et al. 1999).

> *Rhode Island will have a healthy bay quahog 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 quahog resources in Narragansett Bay with appropriate management strategies including transplanting, area closures and spawner sanctuaries.
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.
6. Provide for a simple, uniform and enforceable set of regulations.

Fishery Management and Licensing Recommendations: In 2007, the Department issued 13 new quahog endorsements for the basic commercial fishing license. This decision was based on the Division assessment of license renewals, which indicated that 46 principal effort licenses issued in 2005 were not renewed in 2006. Due to uncertainty in the activity of the non-renewed licenses, an exit/entrance ratio of 3 to 1 was applied, resulting in the availability of the 13 new licenses. These licensees were restricted to 3 bushels per day statewide.

In 2008 the Department issued 499 principal effort licenses with quahog endorsements compared to 538 in 2007, a difference of 39 licenses. Principal effort license holders with quahog endorsements have access to full harvest levels. For student shellfish licenses there was a net decrease of 6 (60 in 2007; 54 in 2008) and a net increase of 24 over 65 shellfish licenses (136 in 2007; 160 in 2008). These two license categories are restricted to basic harvest levels.

In 2009 the Department issued 473 principal effort licenses with quahog endorsements, compared to 499 in 2008 (a decline of 26 licenses). Principal effort license holders with quahog endorsements have access to full harvest levels. For student shellfish licenses the number issued in 2009 was 54 (the same as 2008). Over 65 shellfish licenses increased from 160 in 2008 to 179 in 2009 (an increase of 19). These two license categories are restricted to basic harvest levels.

Based on the survey, landings and concerns over an ageing population of licensed quahog fishermen, issuance of new licenses or endorsements was permitted in past years on a conservative basis. The intention was to maintain current levels of effort by issuing a new license for every active license retired. Since the activity of licenses was unknown, a conservative exit/entrance ratio of 3 to 1 was used, as recommended by industry.

As specified in regulation, new entry will be allowed into the quahog fishery through the issuance of quahog endorsements according to priorities specified in section 6.7-6. New quahog endorsements had been made available using a 3:1 exit/entry ratio, as applied to all eligible licenses, Multipurpose License (MPLs) holders, and Principal Effort Licenses (PELs) with Quahog endorsements that retired in 2009. Since there were 48 such retirees, 16 new Quahog endorsements on Commercial Fishing Licenses (CFLs) were available in 2010.

After consideration of the October 19, 2010 Marine Fisheries Hearing, a number of new licenses will be made available by the Department in 2011 employing a new 2:1 exit/entry ratio. This will allow for 25 new CFLs with quahog endorsements for 2011.

The provision set forth in section 6.7-4 (h) allowing an actively fishing basic commercial fishing license holder with a quahog endorsement to upgrade to a principal effort license with a quahog endorsement and an actively fishing student shellfish license holder to upgrade to a basic commercial fishing license with a quahog endorsement will be continued in 2011.

Future Management Considerations and Recommendations: DEM needs to continue work with industry to ensure a healthy quahog 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 RIDFW resource surveys will provide for innovations in management. Acquisition of fishery landings by market class and stratum will allow for stratum specific assessment and management. 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 regulation will be possible.

The Narragansett Bay Commission's combined sewer overflow project combined with more-intensive water quality monitoring by DEM Water Resources, may result 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". 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" and Conditional Area "B". Alternatives include, but are not limited to, establishing new shellfish management areas, establish area-specific fishing periods, and adopt realistic possession limits. Establishment of "shellfish management areas"

throughout RI coastal waters and comprehensive regulations would allow improved management by DEM and increased flexibility.

Softshell Clam Endorsement

Commercial Landings: Since 1999, commercial landings of softshell clams in Rhode Island have increased by 661%. With the introduction of SAFIS landings have been coded by area and month since 2006. The majority of landings have come from Upper Narragansett Bay, 86% in 2009 (Table 2). These account for the rapid rise in landings associated with several large year classes occurring in the area of Conimicut Point.

Resource Assessment: Softshell clam resources are distributed in the inter-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 and 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 softshell clam grounds in the Conimicut Pt Area, AKA "triangle". The "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 dramatic reductions in abundance for about 593 licensed fishermen holding a softshell endorsement and 700 Multi-purpose licenses. The effective effort has reached its highest in peak summers with 160 participants per month and as low as 20 per month (Figure 4). However, the high abundance and the isolated characteristics of the Conimicut Point area attracted new fishing effort beyond the level of sustainability (Lazar, 2010).

The dynamic characteristics of the area combined with resource access limited by conditional and permanent shellfishing closures, makes reliable abundance estimates difficult to obtain. However, an analysis of catch-per-unit-effort (CPUE) derived from commercial landings was conducted in 2007 (Murphy, 2007) and further analyzed by (Lazar, 2010) demonstrated evidence of stock depletion by year and by month from 2006 to 2009. CPUE measurements are often used as a measure of population abundance. In the absence of a fishery independent survey of the resource CPUE based on commercial landings is the only information available regarding population abundance. CPUE provides a relative measure of abundance providing information on trends. Based on the analysis there was strong evidence that between the years 2006 and 2009 the abundance of softshell clams has declined in the Upper Bay as a result of the rapid rise in landings. This was evidenced by a rapid decrease in CPUE. There were no other significant trends observed for other areas of the State due partially to sample size. The bulk of softshell clam landings are known to occur in "Conditional Area A" from the SAFIS data and from evidenced by the spike in daily landings after each rainfall-induced closure is lifted. A further decline was observed in 2009 as indicated in Figure 3. The main cause of the decline is likely in response to the spike in the number of participants when the area is open combined with the liberal 12 bushel possession limit

The Department is undergoing an extensive sampling and monitoring program for softshell fishery in Rhode Island with particular focus on the newly opened area in Conimicut Point. Results will be presented to the Shellfish Advisory Panel, the RI Marine Fisheries Council in 2011.

Fishery Management and Licensing Recommendations: Softshell clams are managed entirely within state waters by the Department of Environmental Management with advice from the Rhode Island Marine Fisheries Council. 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 Department issued 235 commercial fishing licenses and 358 principle effort licenses with softshell clam endorsements, a new endorsement for 2008. The goal of the new endorsement was to cap effort through the use of the endorsement category in order to create a sustained resource in the state and avoid the boom and bust cycles that were observed in the softshell clam fishery in the past. Other restrictions in the fishery include permanent and conditional pollution closures, seasons, possession limits, minimum size and management closures.

In 2009, 206 commercial fishing licenses and 325 principle effort licenses with softshell clam endorsements were issued. As recommended by the RI Marine Fisheries Council to the Director, new softshell clam endorsements will be made available using a 5:1 exit/entry ratio, as applied to all eligible licenses, Multipurpose Licenses (MPLs), Principal Effort Licenses (PELs) with softshell clam endorsements, and Commercial Fishing Licenses (CFLs) with softshell clam endorsements, that retired in 2009. Since there were 84 such retirees, 17 new softshell clam endorsements on Commercial Fishing Licenses (CFLs) will be available in 2010.

The status quo allows for one new license/endorsement to be issued for every 5 eligible licenses (MPLs, PELs with softshell clam endorsements, and CFLs with softshell clam endorsements) that retire (5:1 exit/entry ratio). Under that scenario, 12 new softshell clam endorsements will be made available for 2011. The Division could support the 5:1 exit/entry ratio, with the caveat that, to prevent localized depletions, sustainable levels of removal will need to be established for the fishery, either through effort control, possession limit adjustments, area-specific quotas, or a combination thereof and outlined below.

Future Management Considerations and Recommendations: The Narragansett Bay Commission's combined sewer overflow project combined with more-intensive water quality monitoring by DEM Water Resources, may result 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". Landings from the high densities of softshell clams at Conimicut Point area, currently subject to rainfall-limited harvest, could further decline without implementation of more realistic 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 a restriction against the use of mechanical harvest methods for all shellfish species in vulnerable sections of Narragansett Bay and the salt ponds would aid in protecting softshell clam stocks. Individuals fishing for razor clams and mantis shrimp with water pumps have been observed harvesting softshell clams.

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

Establishment of a restriction against the use of mechanical harvest methods for all shellfish species in vulnerable sections of Narragansett Bay and the salt ponds would also aid in protecting softshell clam stocks. Individuals fishing for razor clams and mantis shrimp with water pumps have been observed harvesting softshell clams.

The Department is undergoing an extensive sampling and monitoring program for softshell fishery in Rhode Island with particular focus on the newly opened area in Conimicut Point. Results and further management recommendations will be proposed through the process of the Administrative Procedure Act.

Whelk Endorsement

Recently, the RIDFW 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 and until September 2009, it was not regulated or the subject of a stock assessment. Two species are commonly landed; the channeled and knobbed whelks, *Busycotypus canaliculatus* and *Busycon carica*. According to National Marine Fisheries Service (NMFS) statistics, Rhode Island 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, reported landings were less than 2200 pounds. Since 2006, whelk landings by species have been monitored through the Standard Atlantic Fisheries Information System (SAFIS) e-dealer reporting system. SAFIS captures landings from both state and federally permitted fishers. Current landings are 100,000 to 150,000 pounds and are almost exclusively (96%) channeled whelk (RIDFW- unpublished data). Ex-vessel value of whelks from 1950 to 1976 was steady at about $1.25 per pound of meat in standard 2008 dollars. 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 a 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, the 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. Currently there is no licensing system to control the directed effort for whelk fishery in Rhode Island. To avoid opportunistic expansions in effort, considerations shall be given to control fishing effort by introducing a new endorsement in the licensing system directed at whelk fishing. The goal of the new endorsement will be to cap and monitor effort through the use of the endorsement category and avoid future the 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.

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 RIDFW 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 (Figure 4). 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 oyster disease effects. 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 the Division 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, blue mussels, and razor clams are managed in state waters by the Department of Environmental Management with advice from the Rhode Island Marine Fisheries Council. Additional federal regulations apply to surf clams and ocean quahogs in the EEZ. 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 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. The RIDEM 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.

Licensing Options and Recommendations- No changes are recommended for the licensing program for shellfish that fall under the non-quahog endorsement category excluding softshell 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

Literature Cited

Erkan, D.E. and M.R. Gibson (2006). 2005 Shellfish Survey of Potter Pond South Kingstown, Rhode Island. RI Division of Fish and Wildlife.

Ganz A.; Lazar N.; Valliere A.(1999). Narragansett Bay Quahog Management Plan. RI Division of Fish and Wildlife. Report to the Narragansett Bay Project and RI Marine Fisheries Council.

Gibson, M.R. 1999. Assessment of quahogs (*Mercenaria mercenaria*) in Narragansett Bay: technical analyses in support of a bay wide quahog management plan. RI Division of Fish and Wildlife. Res. Ref. Doc. 99/2.

Gibson, M.R. (2010). Stock Assessment of Whelk in Rhode Island and Recommendations for Research and Management. In progress

Lazar, N. et al. (2010). Stock Assessment of softshell in Rhode Island. In progress

Murphy, B.R. 2007. Estimation of Catch per Unit Effort for the Commercial Softshell Clam (*Mya arenaria*) Fishery in Rhode Island. RI Division of Fish and Wildlife.

Oviatt, C, Wolff, N, VanKeuren, D, and Nicosia, E. (1998). Oysters (*Crassostrea virginica)* as indicators of a climate warming trend in Northeast waters. CR822051-010 Final report. Funding agency: Environmental Protection Agency.

Table 1. Total count of quahogs landed commercially in Rhode Island in 2009 by area and market category.

	Little Neck	Top Neck	Cherry	Chowder	Unclassified	Total
Unknown	41,559	483	685	19,326	149,175	211,228
Upp Bay	1,855,861	1,111,149	10,225	107,731		3,084,965
Greenwich	1,640,959	172,067	16,479	11,484		1,840,989
NBAY WEST	5,542,348	2,798,339	527,613	196,570		9,064,870
NBAY EAST	1,032,424	608,314	3,548	74,102		1,718,387
Sakonnet River	118,430	67,616	91	21,518		207,655
Block Island	21,491	1,716	377	233	189	24,006
Ninigret Pond	12,967	189	1,230	244	350	14,980
PT Judith	681,908	176,294	6,638	22,604	6,463	893,906
Quonny	21,872	1,700	13	275	758	24,618
Winnapaug	412	187		47	2,616	3,262
Total	**10,970,231**	**4,938,053**	**566,899**	**454,133**	**159,551**	**17,088,867**

Table 2. Commercial softshell clam landings (pounds) by area

	2008		**2009**	
Unknown	8,820	1%	46,169	9%
Upper Narragansett Bay	519,762	73%	351,635	71%
Greenwich Bay	5,704	1%	4,182	1%
Narragansett Bay – West Passage	151,825	21%	72,660	15%
Narragansett Bay – East Passage	4,856	1%	5,636	1%
Sakonnet River	860	0%	1,930	0%
Point Judith Pond	20,115	3%	11,240	2%
Quonochontaug Pond	2,218	0%	1,181	0%
Ninigret Pond	388	0%	52	0%
Winnapaug	72	0%	5	0%
Total	**714,620**		**494,689**	

Figure 1: Quahog Landings in meat weight in Rhode Island (1940 – 2009)

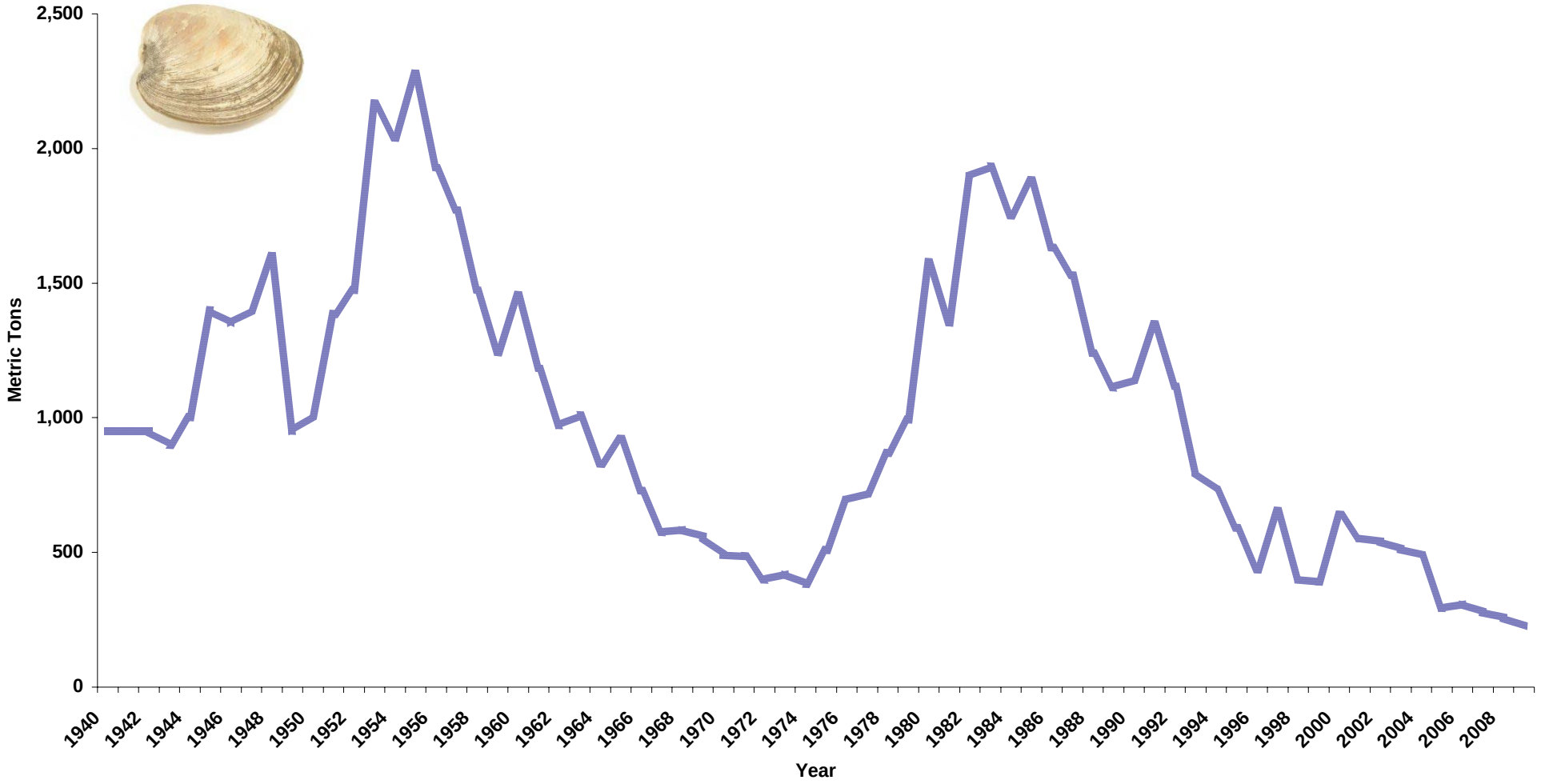


Figure 2: Mean Density of quahogs (#/m2) from the hydraulic dredge survey (1994-2009)

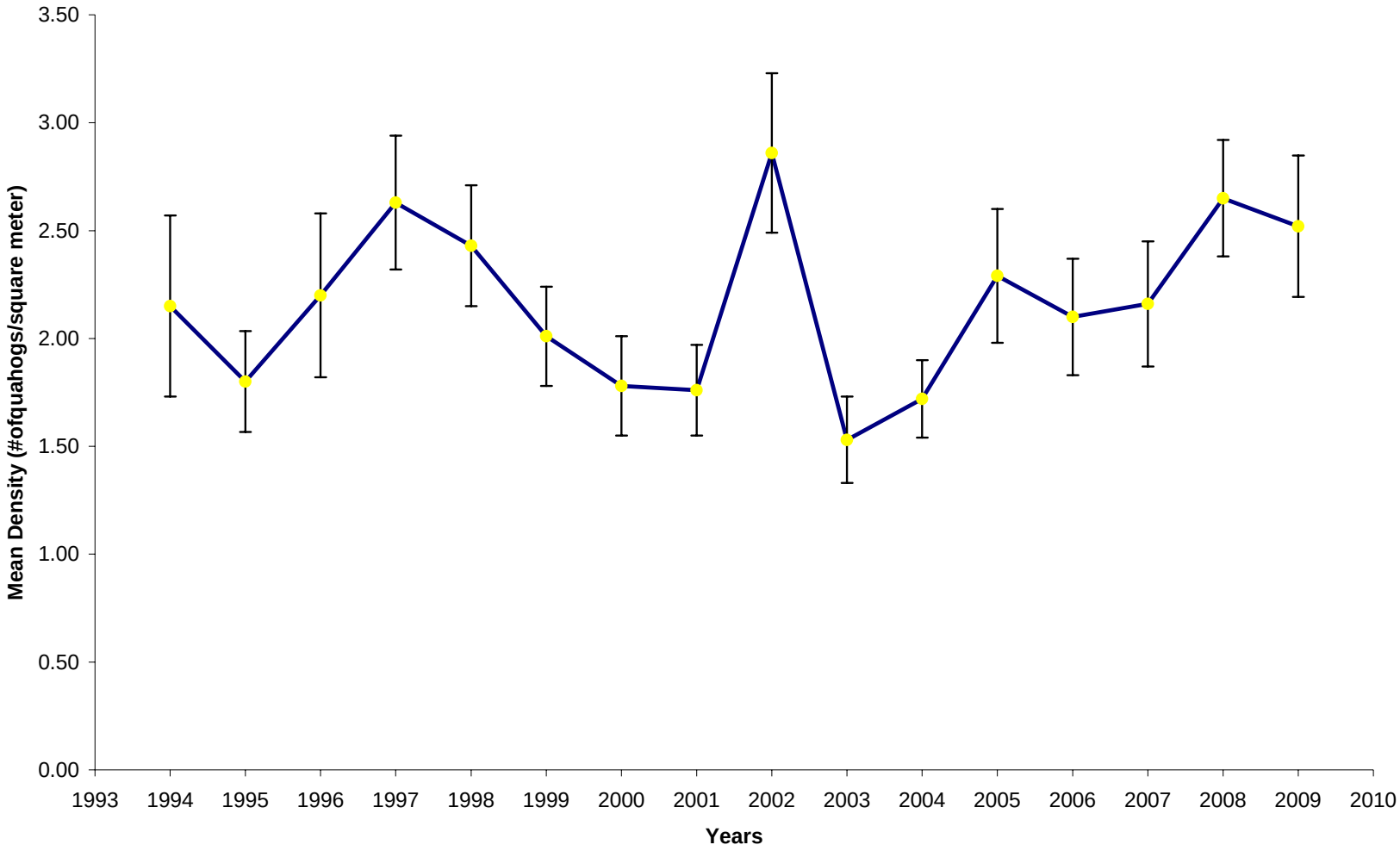


Figure 3: Softshell Clam Landings by month-year and the number of participating Fishermen

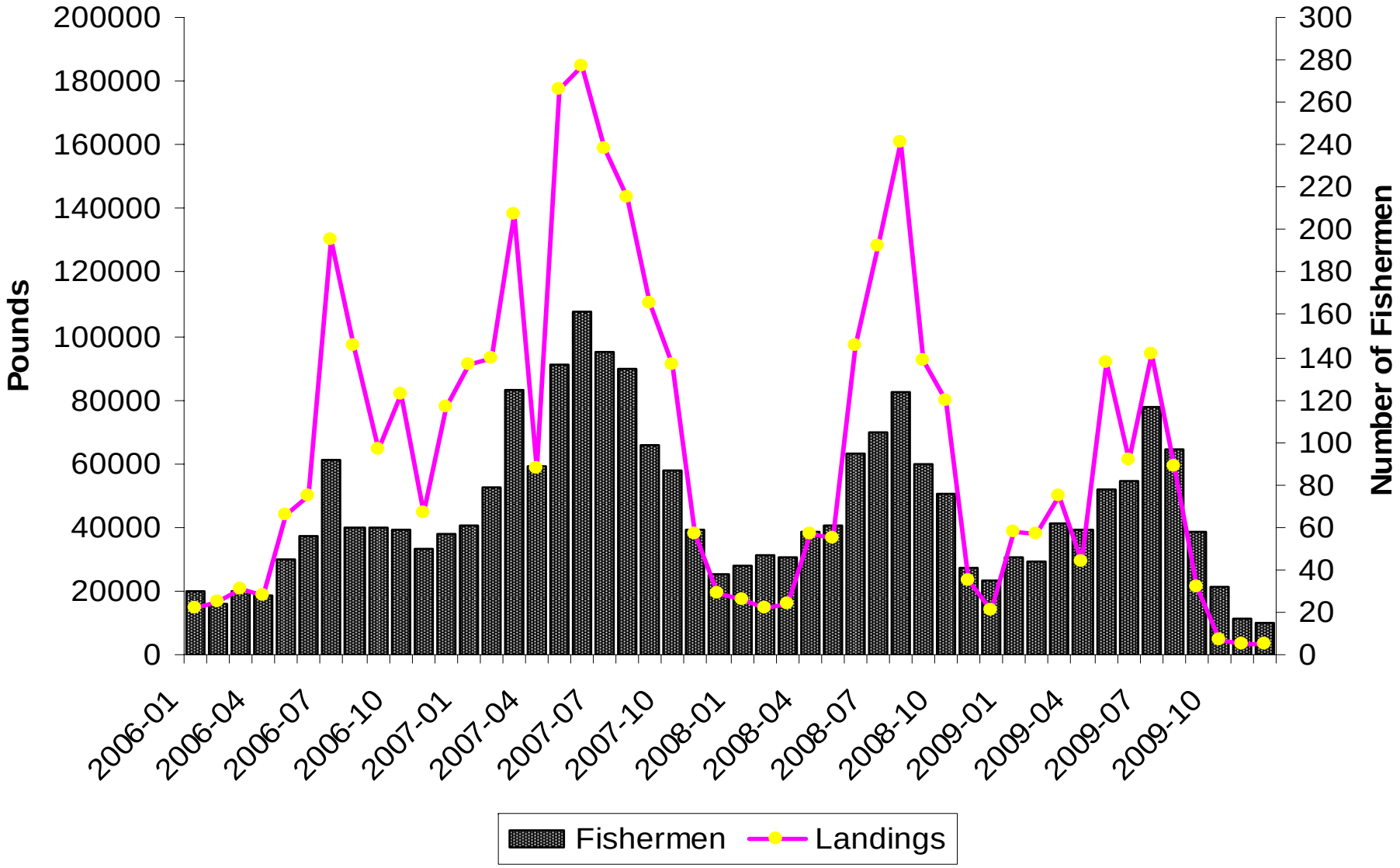


Figure 4: Oyster Landings in Rhode Island (wild-harvest only)

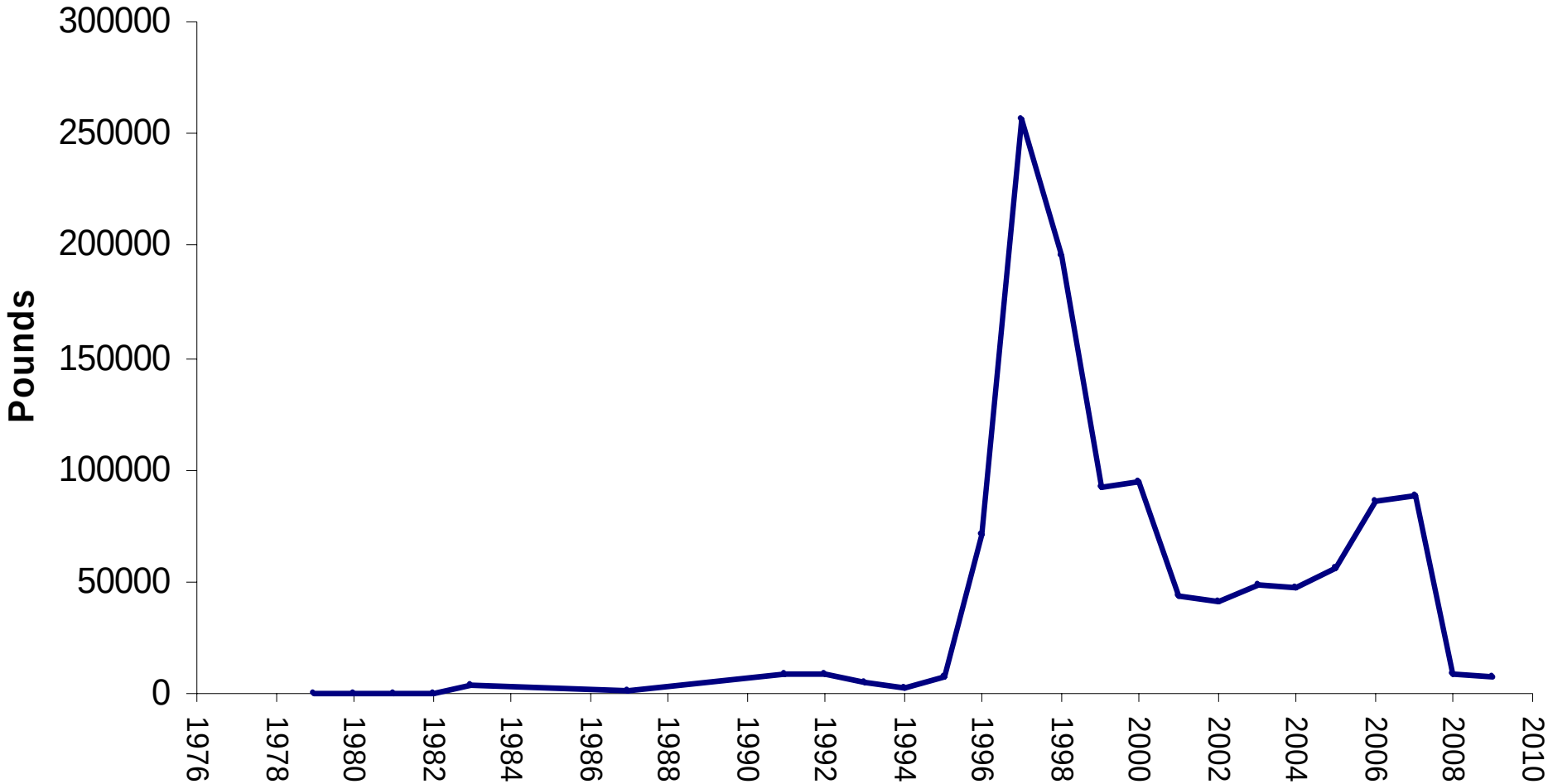
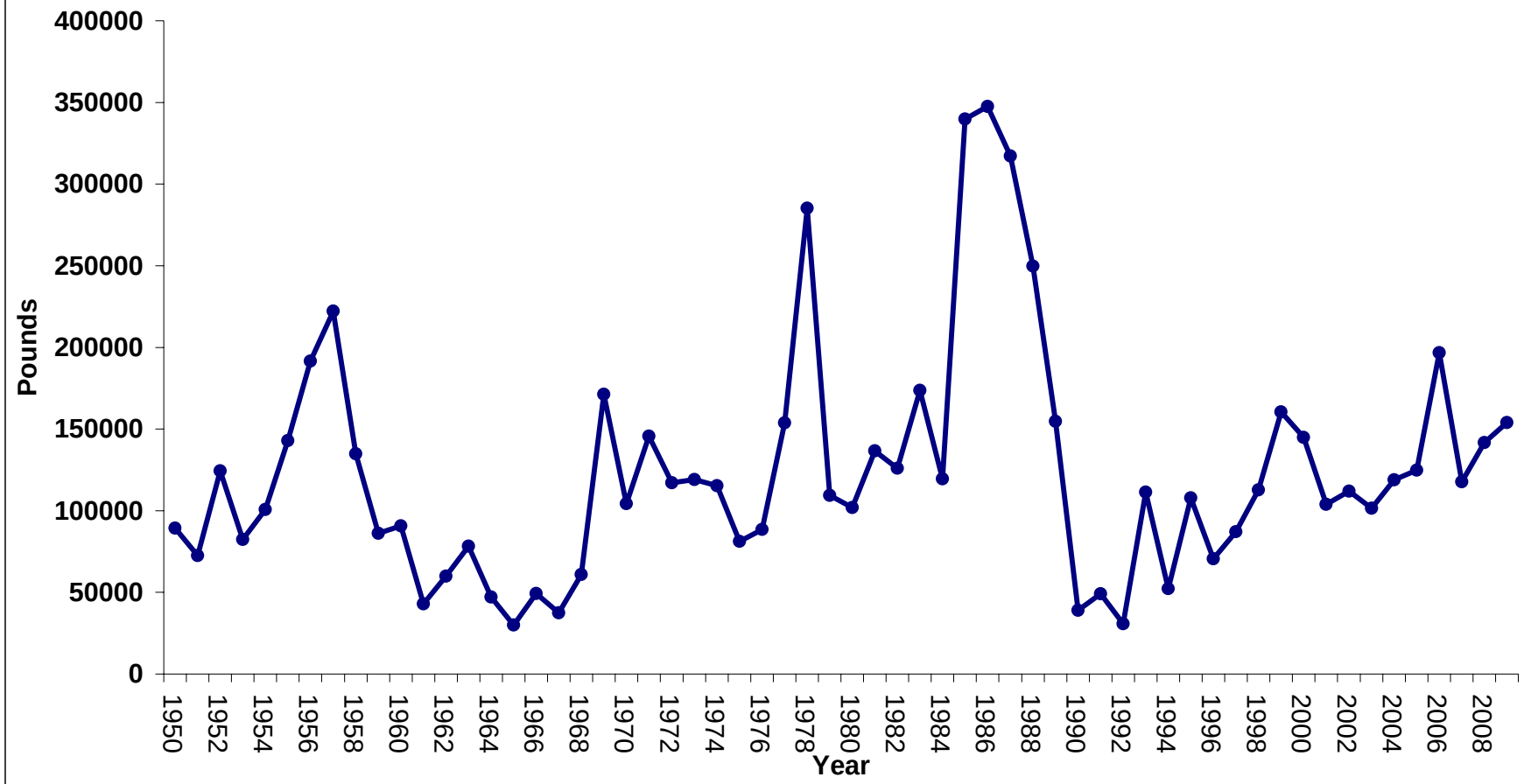


Figure 5- Commercial Landings of Whelk in RI - 1950-2008



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 29th day of December, 2010 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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W. Michael Sullivan, PhD
Director, Department of Environmental Management

Notice Given:	09/16/2010
Public Hearing:	10/19/2010
Filing date:	12/29/2010
Effective date:	01/18/2011