

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS DEPARTMENT
OF ENVIRONMENTAL MANAGEMENT**

Division of Fish and Wildlife
Marine Fisheries



2013 Management Plan for the Crustacean Fishery Sector

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

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 SUPERSEDED RULES AND REGULATIONS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rules and regulations, and any policies regarding the administration and enforcement of this regulation shall be superseded.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

Rhode Island Crustacean Fishery Management Plan 2013

Introduction:

Rhode Island general law pertaining to commercial fishing licenses requires that the Director of DEM develop conservation and management plans in support of regulations that may restrict the issuance of licenses (RIGL 20-2.1-9(5)). Restrictions on commercial licenses were clearly contemplated by the Rhode Island General Assembly as a means to limit fishing effort and to rebuild depleted fishery resources (RIGL 20-2.1-2, 20-3.1-2 (4)). Such plans are to be developed with advice from the Rhode Island Marine Fisheries Council (RIGL 20-2.1-10) and shall focus on fishery resources with the greatest value to the state. The current DEM commercial licensing program recognizes three fishery sectors; crustaceans, finfish, and shellfish. The following is the plan for the crustacean sector with recommendations for licensing in 2013. Two crustacean sector license endorsements, lobster and crustaceans other than lobster (crabs, shrimps) are offered by DEM and are considered here. This plan emphasizes American lobster in recognition of their great commercial and recreational value to Rhode Island citizens. The 2012 licensing plan recommended no new lobster licenses in view of the poor resource status and ongoing management activities designed to rebuild the lobster resource in the Rhode Island area.

American Lobster:

Stock Status – The lobster resource in Narragansett Bay and Rhode Island coastal waters (Lobster Conservation Management Area 2, Southern New England lobster stock unit) has been over exploited for many years (ASMFC 1996, 2000, 2006a, 2009, Gibson 2000). A stock decline in 2002 prompted the Atlantic States Marine Fisheries Commission (ASMFC) to initiate emergency remedial action in Lobster Conservation Management Area 2 (Area 2), which includes Rhode Island state waters. The two ASMFC lobster stock assessments conducted since 2002 have concluded that the southern New England lobster stock, including Area 2, is in poor condition based on the recommended biological reference points, is below the abundance threshold, is at or near the fishing mortality threshold, is depleted and at the overfishing threshold (ASMFC 2006a), and is below the effective exploitation threshold (ASMFC 2009) (Table 1).

Agency trawl surveys clearly document the abundance decline that triggered the 2002 ASMFC emergency action in Area 2. Rhode Island Division of Fish and Wildlife (RIDFW) surveys conducted in Narragansett Bay and Rhode Island coastal waters since 1979 show that local lobster abundance dropped from high levels in the mid-1990's to low levels in 2002-2003 (Figure 1). Although surveys conducted during 2005-2008 caught slightly more lobster, abundance has not recovered to former levels and remains below the time-series average. URI scientists have observed a similar pattern in lobster catches made by the Graduate School of Oceanography survey in state waters (Figure 2). Both Massachusetts and Connecticut have reported lobster declines to the east in Buzzards Bay and to the west in Long Island Sound. The decline in abundance of both sub-legal and legal lobster from 1997 to 2002 was preceded by a steep decline in the abundance of newly settled lobster from 1990 to 1996 (Figure 3). These abundance patterns are consistent with the generally accepted time lag of 6-7 years between first settlement and attainment of adult size. In addition to reduced settlement, shell disease, oil spills, and increasing predation by finfish have likely increased the natural mortality rate and reduced the number of lobster surviving from settlement to legal size. The combined effects of reduced settlement and declining post-settlement survivorship have impacted the fishery, reducing recruitment, landings and catch per unit effort (CPUE) to lower levels (Figure 4). Given the time lag from

settler to adult, the increase in legal abundance observed in 2004-2006 was not unexpected. On a pessimistic note, settlement from 2007-2012 was poor, suggesting that a return to high stock levels is unlikely in the foreseeable future.

The ASMFC lobster technical committee has updated the coast-wide lobster stock assessment including evaluation of new models that can consider increased natural mortality rate. They have also revised their definitions of stock areas and made recommendations for new biological reference points. National and international stock assessment experts have completed a peer review. The ASMFC lobster management board, at their spring 2009 meeting, accepted the assessment results and peer review which have since been published for public information (ASMFC 2009). The new assessment showed that the southern New England (SNE) stock of lobster, spanning the region from Cape Cod to New Jersey, is at low abundance and considered depleted (Figure 5). The above cited assessment results and peer review comments pertain to a broader stock area than the Rhode Island marine waters under jurisdiction of the state. In response to the assessment and peer review, the ASMFC lobster management board authorized development of several addenda to the fishery management plan for lobster pending public comment and further board deliberations.

The ASMFC lobster technical committee recently examined data collected since the 2009 lobster stock assessment (i.e. 2008-2010 data). The SNE stock continues to be below the reference abundance threshold and below the effective exploitation threshold, meaning *the stock is depleted but overfishing is not occurring* (Table 1). Current abundance of the SNE stock is the lowest observed since the 1980s (Figure 5) even though exploitation rates have declined since 2000. More importantly, the 2009 assessment documented recruitment at very low levels throughout the SNE stock between 1998 and 2005. A number of empirical stock status indicators were examined to judge the stock's overall health independent of assessment model results. Abundance indicators for SNE are generally negative or neutral while fishing mortality indicators are mixed. In the offshore waters covered by the NMFS survey and deeper near shore waters covered by the RI survey, exploitation rates have been neutral or positive for the 2005-2007 time period. However, exploitation for Long Island Sound and the inshore waters of NJ are negative, with the exception of the NJ Fall Survey which is neutral. Fishery performance indicators are generally negative, reflecting the fact that catches and abundance are cascading downward. In general, stock indicators and model results both reflect the same stock status: overall abundance, spawning stock biomass, and recruitment are all at low levels throughout SNE lobster stock; the stock has not rebuilt since the last assessment and is still in poor condition.

Management Program – Lobsters are managed within state waters by the Rhode Island Department of Environmental Management (RIDEM) with advice from the Rhode Island Marine Fisheries Council and RIDFW. Regional management of the lobster resource is the responsibility of the ASMFC. Amendment 3 to the fishery management plan (ASMFC 1997) and associated addenda govern the interstate management program and peer reviewed coast wide stock assessments (ASMFC 2000, 2006a, 2009) provide information on lobster biology and resource status. The ASMFC management program is organized by lobster management area with Rhode Island state waters part of Area 2. RIDEM complies with the Area 2 plan through a set of management measures that includes minimum gauge and escape vent sizes, trap limits, protection of egg-bearing females, and v-notching. Both state (RI-MA) and federal waters are included in Area 2 making cooperative management essential. The plan for Area 2 initially required reductions in trap deployment in addition to a set of gauge and escape vent size increases in order to rebuild egg production to the minimum F10% level. The Addendum VII plan was structured to include transferability of lobster trap allocation, and includes a 10% conservation tax on trap allocation transfers which is expected to result in

further reductions in the amount of traps deployed in Area 2 over time. The transferability provisions for Addendum VII are currently under development by ASMFC, but have not been implemented at the present time. New interim biological reference points were adopted via ASMFC addendum VIII in 2006 and a rebuilding timeline with technical measures via ASMFC addendum XI were adopted in 2007. These actions were taken to remedy the over-fished condition identified in the 2006 stock assessment. ASMFC addendum XVI established new reference points for determination of lobster stock status and was adopted in November 2009.

Additionally, in response to the April 2010 ASMFC Lobster Technical Committee report on recruitment failure in the SNE lobster stock, the ASMFC Lobster Management Board called for development of an addendum (addendum XVII) to address a recommended 50-75% reduction in the exploitation rate on lobster in the SNE stock. The NMFS contracted the services of the Independent Center of Experts (ICE) to conduct a review of the 2009 stock assessment and technical committee report on recruitment failure in SNE. The ICE review produced a consensus that 1) natural mortality rate (M) had likely increased, 2) the stock was in poor shape, and 3) severe reductions in fishing mortality rate were needed immediately. The ASMFC Lobster Management Board approved Addendum XVII to the Interstate Fishery Management Plan for American Lobster in February 2012. This addendum presents a suite of management options to reduce fishing exploitation on the southern New England (including LCMA 2) lobster stock by 10% starting in July 2013. The proposed 10% reduction would come from changes in the minimum size limit, maximum size limit, and/or closed seasons. Proposals would be developed for each affected lobster conservation management area (LCMAs 2, 3, 4, 5, and 6) to meet the 10% reduction in exploitation. In lieu of a closed season, a conservation equivalency program was approved for LCMA 2 to allow the states of Rhode Island and Massachusetts to implement a mandatory v-notch program for all legal sized egg bearing females beginning June 1, 2012. If the measures do not meet the conservation objectives, an annual four month closed season from January 1 to April 30 will be implemented. As part of the Southern New England area-specific measures, LCMA 3 will implement a minimum size of 3 17/32" effective January 1, 2013.

In May 2012 the ASMFC American Lobster Management Board approved Draft Addendum XVIII for Public Hearing. The draft Addendum proposes a consolidation program for LCMA's 2 and 3 to address latent effort and reduce the overall number of traps allocated. The specific management tools being considered include trap allocations, trap banking and controlled growth for participants in the fishery.

Fishery Management Goals and Objectives -

Goal- The following goal is adapted from the coast wide goal of the Atlantic States Marine Fisheries Commission (ASMFC 1996).

Rhode Island will have a healthy American lobster 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, which minimize the risk of stock depletion and recruitment failure.
2. Extend size-age composition of the resource and increase yield per recruit in the fishery while maintaining harvest at a sustainable level.

3. Maintain existing social and cultural characteristics of the fishery wherever possible
4. Promote economic efficiency in harvesting and use of the resource
5. Provide for adaptive management that is responsive to unanticipated short-term events or circumstances.
6. Increase understanding of American lobster biology and improve data collection, stock assessment models, and relationships between harvesters and scientists.

Licensing Options and Recommendations-

Current Rhode Island lobstermen fishing in state waters must hold either a multipurpose license, lobster principal effort license, or commercial fishing license endorsed for lobster to fish for lobster, as allowed for by existing state and ASMFC regulations. The licensing statutes require that the Director of DEM specify by rule the status of the lobster resource each year and the availability of new lobster licenses. A limited number of individuals were issued limited access, basic commercial fishing licenses in 2003. These licenses allowed for a 100-pot deployment rather than the 800 pot, full access deployment. As a result of implementation of Addendum VII, all license holders are now limited to fishing a number of traps based on their individual lobster landings and trap deployment history during the years 2001-2003 (or 1999-2000 in cases of a proven medical or military service hardship during the years 2001-2003). No new lobster licenses were recommended or issued by RIDEM for 2012, and none are recommended by RIDEM for 2013.

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 lobster fishery regarding licenses for 2013 (no new lobster licenses). The RIMFC agreed with the IAC and recommend status quo to the Director of DEM, no new lobster endorsements for 2013.

RIDFW Recommendations – It is clear from the above information that the regional lobster resource has undergone a decline in abundance and fishery performance. The decline has imposed substantial economic hardship on industry that has responded with attrition. Recently, the local stock has shown signs of increase but biomass remains below that needed for MSY. The regional rebuilding effort undertaken by the ASMFC has not yet been completed. Additional restrictions may be placed on existing fishers in 2012-2013 via addendums to the interstate fishery management plan including a prohibition on issuance of new Area 2 permits. This prohibition includes state lobster licenses and landing permits applicable to lobster. The finding of reduced resource status (biomass below threshold level) is inconsistent with Rhode Island fishery conservation standard A of RIGL 20-2.1-9. In view of ASMFC compliance requirements and state law, it is recommended that no new lobster licenses be issued for 2013. The state should continue to work with the RIMFC and ASMFC to further reduce fishing mortality and to rebuild the lobster resource throughout the region. Attrition is clearly occurring in the industry and contributing to reduced fishing effort. The state is preparing to neutralize latent effort through the trap reductions imbedded in Addendum XVIII so that it cannot activate if resource conditions improve. Participation in Area 2 is based on historical performance and the state has reviewed lobster licensing and made appropriate changes in preparation for limited access-historical performance. A lobster trap allocation transferability program is under development in consultation with ASMFC. This can be used to bring new individuals into the fishery without increasing effort above that qualified in the initial trap allocation.

Other Management Considerations – Industry has worked closely with the ASMFC, NMFS, and RIDFW to implement the effort control program approved by the ASMFC lobster management board. Continued agency/industry cooperation is needed as implementation of transferability and historic participation schemes

proceeds throughout the region. These programs, although controversial in some quarters, provide the best long-term mechanism to reduce lobster fishing effort. Industry has also expressed support for a replacement for the North Cape v-notching program that ended in July of 2006. As noted above, this has come in the form of ASMFC Addendum XVIII to the American Lobster FMP. The former program had reduced the fishing mortality rate on female lobsters locally and egg production by v-notched females was a substantial component of egg production during 2002-2006. However, this component of egg production has decreased drastically since the termination of the North Cape v-notching program. Re-institution of this program in the context of achieving ASMFC stock rebuilding targets is set to occur. DEM strengthened v-notch protection by implementing a more restrictive v-notch definition on September 12, 2006. The intent was to increase the longevity of v-notched lobsters and encourage industry to practice voluntary notching. Abundance of v-notched lobster declined during 2006-2009. This warrants close monitoring since industry based v-notching post North Cape is needed to keep mortality rates low on female lobster. Finally, industry supports continuation of the un-vented trap survey begun in 2006 as the primary abundance-monitoring tool for lobster. Continued federal funding to Rhode Island is needed to continue this survey.

Other Crustaceans:

Stock Status – The commercial crab fisheries in state waters are relatively small with landings of green (*Carcinus maenas*), Jonah (*Cancer borealis*), rock (*Cancer irroratus*), and blue crabs (*Callinectes sapidus*) being made. Total Rhode Island landings of these species is currently about 4.2 million pounds and worth about 2.2 million dollars. However, only a small amount of this is taken from state waters. Landings of deep-sea red crabs (*Chaceon quinque-dens*) are also made, but these come strictly from federal waters and participation is limited by federal permit. Fishing mortality rate on the two *Cancer* crab species (Jonah and Rock crabs, species combined) has recently exceeded the F_{msy} level (Figure 6) and should be monitored in the future. Biomass, however, was above the B_{msy} level so the Jonah and Rock crab resource is not considered over-fished at this time (Figure 7). Figure 8 shows the URIGSO trawl survey time-series for the two *Cancer* crab species (Jonah and Rock crabs, species combined). Recent (2006-2011) *Cancer* crab abundance is below the time-series mean. Figure 9 shows the URIGSO trawl survey time-series for blue crabs. There is not sufficient data to assess other crab species in state waters at this time. The introduction of the Japanese shore crab (*Hemigrapsus sanguineus*) has been noted and may have as yet unknown consequences for other crab species.

The horseshoe crab (*Limulus polyphemus*), although not a true crab, is also harvested. Horseshoe crabs in Rhode Island were found to be over-fished and at low abundance in the first RIDFW assessment (Gibson and Olszewski 2001) and analysis of data through 2011 show a continuing trend of low abundance. A commercial quota system with additional seasonal harvest restrictions has been instituted and landings have been reduced. An update of the stock assessment shows that while fishing mortality rate has been reduced to below the F_{msy} reference point, stock abundance has not yet recovered toward B_{msy} (Figures 10 and 11).

Management Program – Horseshoe crabs and crustaceans other than lobster are managed in state waters by the Department of Environmental Management with advice from the Rhode Island Marine Fisheries Council. The Department uses seasons, quotas, and possession limits to manage the state waters fishery. Compliance with an ASMFC management plan is required in the case of horseshoe crabs and is achieved with a commercial quota and permitting system.

Fishery Management and Licensing Recommendations – Crab abundance is stable so that no new restrictions are needed. The recent increase in cancer crab landings should be monitored. The spawning period closures have greatly restricted the horseshoe crab fishery and reduced fishing mortality rates. Currently, the Rhode Island Horseshoe Crab assessment is being updated with the most recent data available. The current management approach has proven to be difficult for enforcement and does not allow multiple gear types and user groups an equal opportunity for harvest on a seasonal basis. Additional limits may be needed in the future. New commercial licenses for most of these species need not be limited and can likely sustain harvest levels equal to current licensees. The permit to harvest horseshoe crabs should be added as an endorsement through the office of Licensing. In order for the Division to react in a timely fashion to fishery landings, the reports should continue to be submitted in the current manner. However it should be noted that with un-restricted access to the horseshoe crab fishery, the likelihood of an early closure date due to an exhausted quota is high unless more restrictive daily possession limits are implemented. With a quota based management regime there is no biological reason for limiting access however as effort increases so do landings.

Literature Cited

Atlantic States Marine Fisheries Commission (ASMFC). 1996. A review of the population dynamics of American lobster in the northeast. Special Report No. 61 of the Atlantic States Marine Fisheries Commission.

Atlantic States Marine Fisheries Commission (ASMFC). 2000. American lobster stock assessment report for peer review. Stock assessment report No. 00-01 (Supplement) of the Atlantic States Marine Fisheries Commission. July 2000.

Atlantic States Marine Fisheries Commission (ASMFC). 2003a. Total allowable landings for area 2. Report of the ASMFC lobster modeling subcommittee, January 2003.

Atlantic States Marine Fisheries Commission (ASMFC). 2003b. Lobster conservation management area 2: goals and management measures. Report of the ASMFC lobster technical committee, July 2003.

Atlantic States Marine Fisheries Commission (ASMFC). 2006a. American lobster stock assessment for peer review. Stock Assessment Report No. 06-03 (Supplement) of the Atlantic States Marine Fisheries Commission. January 2006.

Atlantic States Marine Fisheries Commission (ASMFC). 2006b. Terms of Reference and Advisory Report to the American lobster stock assessment peer review. Stock Assessment Report No. 06-03 of the Atlantic States Marine Fisheries Commission. January 2006.

Atlantic States Marine Fisheries Commission (ASMFC). 2009. American lobster stock assessment for peer review. Stock Assessment Report No. 09-01 (Supplement) of the Atlantic States Marine Fisheries Commission. February 2009.

Drinkwater, K.F. and D.G. Mountain. 1997. Climate and Oceanography. Pages 3-25 in J. Boreman, B.S. Nakashima, J.A. Wilson, and R.L. Kendall, editors. Northwest Atlantic groundfish: perspectives on a fishery collapse. American Fisheries Society, Bethesda Maryland.

Gibson, M.R. 2000. Alternative assessment and biological reference points for the Rhode Island inshore lobster stock with estimations of unfished stock size. Report to the Atlantic States Marine Fisheries Commission and lobster assessment peer review panel.

Gibson, M.R., and S. Olszewski. 2001. Stock Status of Horseshoe Crabs in Rhode Island in 2000 with Recommendations for Management. RI Division of Fish and Wildlife. Research Reference Document 01/01.
Gibson, M.R., and T. E. Angell. 2006. Estimating the reduction in fishing mortality rate on area 2 lobster associated with the North Cape v-notching program. RI Division of Fish and Wildlife. Report to the ASMFC lobster technical committee.

Hilborn, R., and C.J. Walters. 1992. Quantitative fisheries stock assessment choice, dynamics and uncertainty. Chapman and Hall, New York. 570 p.

Katz, C.H., J.S. Cobb, and M. Spaulding. 1994. Larval behavior, hydrodynamic transport, and potential offshore recruitment in the American lobster, *Homarus americanus*. Mar. Ecol. Prog. Ser. 103: 265-273.

Wahle, R., M. Gibson, R. Glenn, P. Lawton, D. Robichaud, J. Tremblay, and C. Wilson. 2006. New England Lobster Settlement Index: Update 2005 Climate Controls.

Table 1 - Revised threshold reference points with stock status variables for the Southern New England lobster stock unit.

Variable	SNE
Effective Exploitation	
Effective Exploitation Threshold	0.44
Recent effective exploitation 2005-2007	0.32
Effective Exploitation Below Threshold?	YES
Reference Abundance (number of lobster)	
Abundance Threshold	25,372,700
Recent Abundance 2005-2007	14,676,700
Abundance Above Threshold?	NO

Table 2 - Rhode Island Lobster License Issuance Data, 2003-2012

<u>License Type</u>	<u>YEAR</u>									
	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Total Multi-Purpose Licenses (MPL)	1191	1135	1075	1019	973	939	917	891	868	853
MPL w/ lobster endorsement*	1191	1135	1075	1019	973	939	917	891	868	853
MPL ordered trap tags (State only/Area2)**	265	243	228	207	154	172	148	156	141	108
MPL w/ lobster trap allocation (State only/Area2)*					210	219	215	210	209	209
MPL ordered trap tags (Federal/Area 2)**	130	130	119	108	95	91	87	89	81	78
MPL w/ lobster trap allocation (Federal/Area 2)*					112	111	112	110	110	104
Total Principal Effort Licenses (PEL)	1325	1148	997	930	862	810	776	735	713	690
PEL w/ lobster endorsement*	61	56	52	46	45	44	40	38	37	36
PEL ordered trap tags (State only/Area 2)**	25	21	19	18	20	17	17	17	13	10
PEL w/ lobster trap allocation (State only/Area 2)*					23	22	22	21	21	21
PEL ordered trap tags (Federal/Area 2)**	16	15	15	10	12	12	13	13	12	7
PEL w/ lobster trap allocation (Federal/Area 2)*					14	14	15	15	14	14
Total Commercial Fishing Licenses (CFL)	271	283	317	397	464	421	433	450	394	398
CFL w/ lobster endorsement***	50	48	41	38	32	27	22	19	17	16
CFL ordered trap tags (State only/Area 2)**	24	16	13	10	6	6	6	6	5	4
CFL w/ lobster trap allocation (State only/Area 2)***					9	8	8	8	8	8
CFL ordered trap tags (Federal/Area 2)**	0	2	2	2	2	2	1	1	1	1
CFL w/ lobster trap allocation (Federal/Area 2)***					2	2	2	1	1	1
Total Effective Lobster Licenses	1302	1239	1168	1103	1050	1010	979	948	922	905
Total Effective Lobster Licenses w/ trap allocation	0	0	0	0	370	376	374	365	363	357

* 800 trap limit during 2003-2006; individual history-based lobster trap allocation starting in 2007;

all MPL licenses are endorsed to take lobster

** 2003-2011 used trap tag orders as proxy for "effective" lobster licenses

*** 100 trap limit during 2003-2006; individual history-based lobster trap allocation starting in 2007

Figure 1 - Lobster Abundance in the RIDFW Fall Trawl Survey in Narragansett Bay and RI Coastal Waters, 1979-2011.

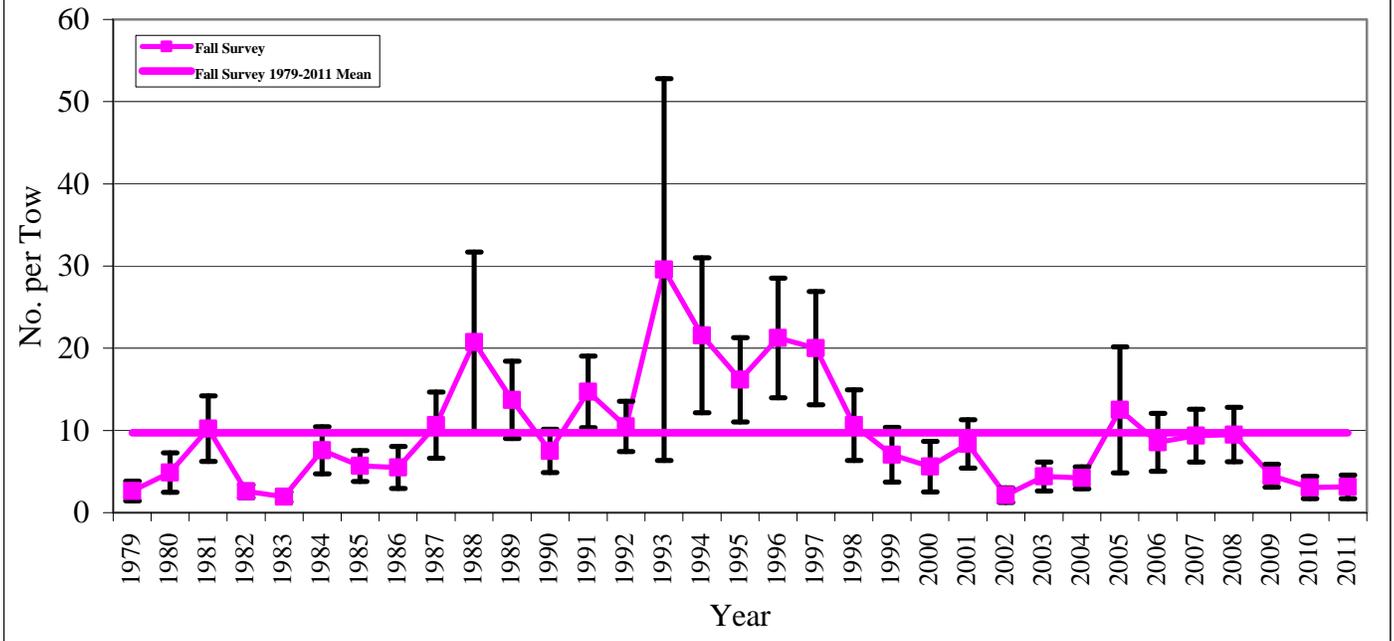


Figure 2: Abundance of Lobster in the URIGSO Trawl Survey, 1959-2011.

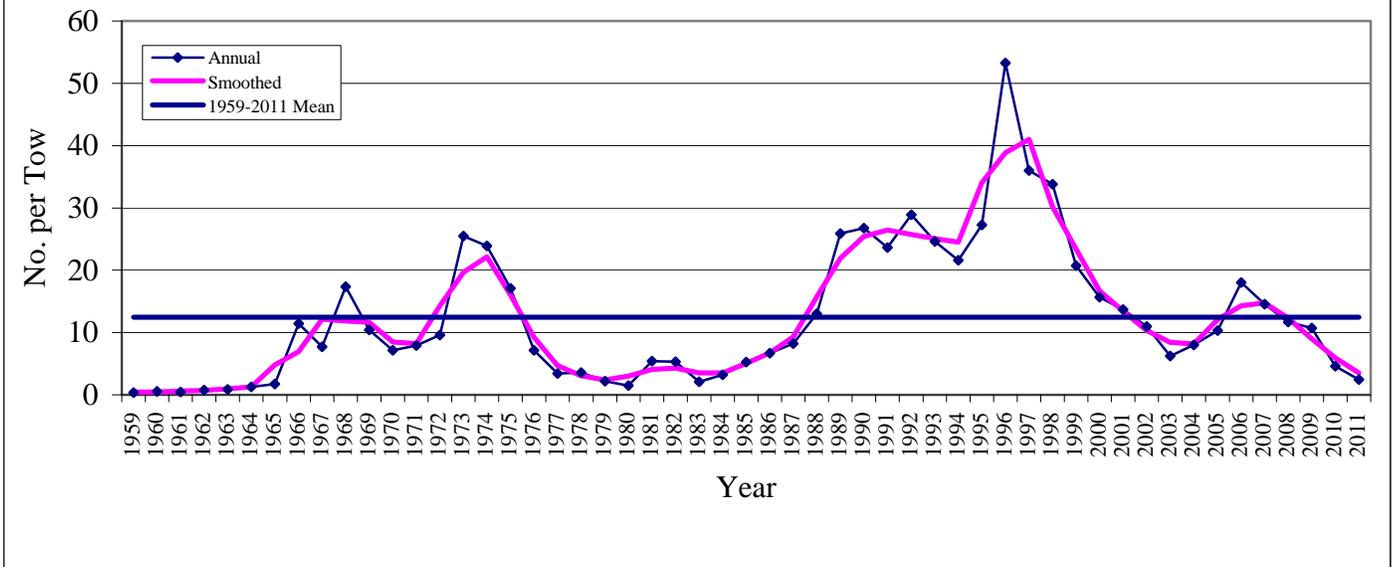


Figure 3: Rhode Island YOY Settlement Survey Index (+SE) from Wahle-F&W Dive Survey, 1990-2011.

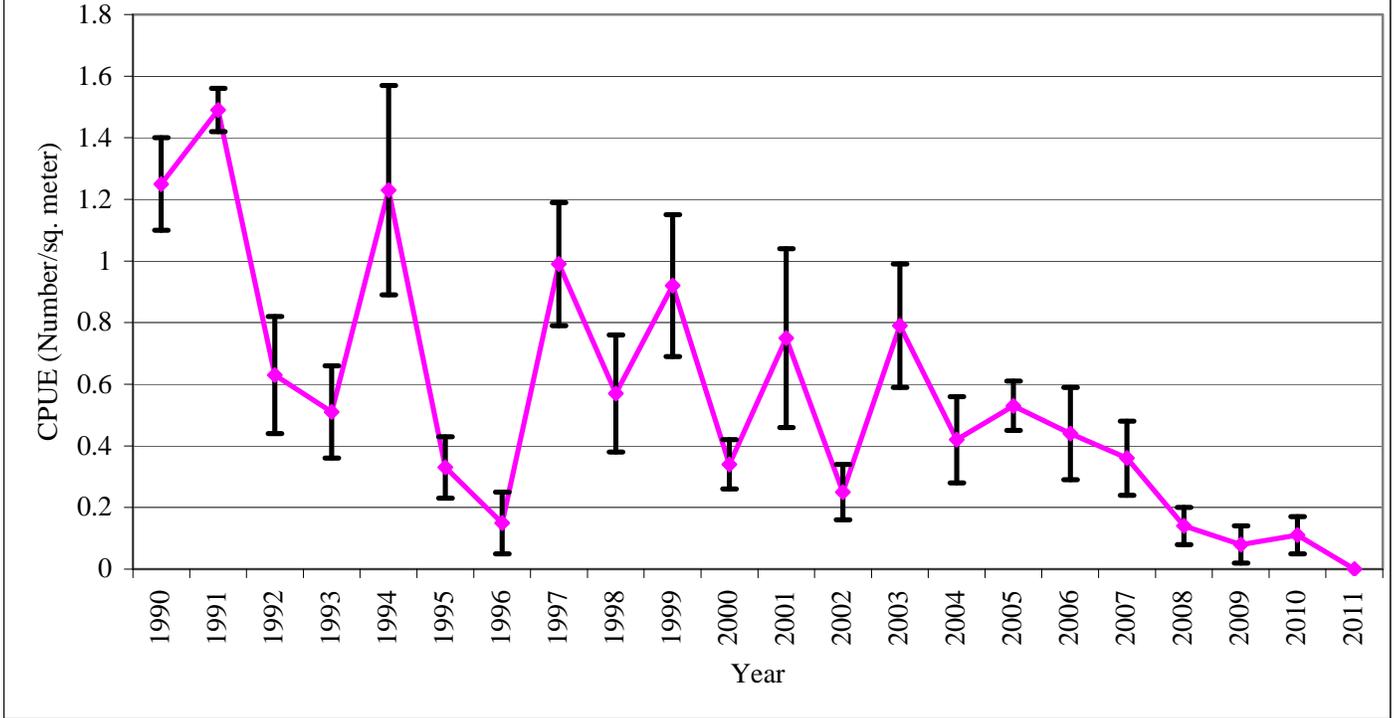


Figure 4 - RI Inshore Commercial Lobster Landings and Fishery Catch per Pot Haul

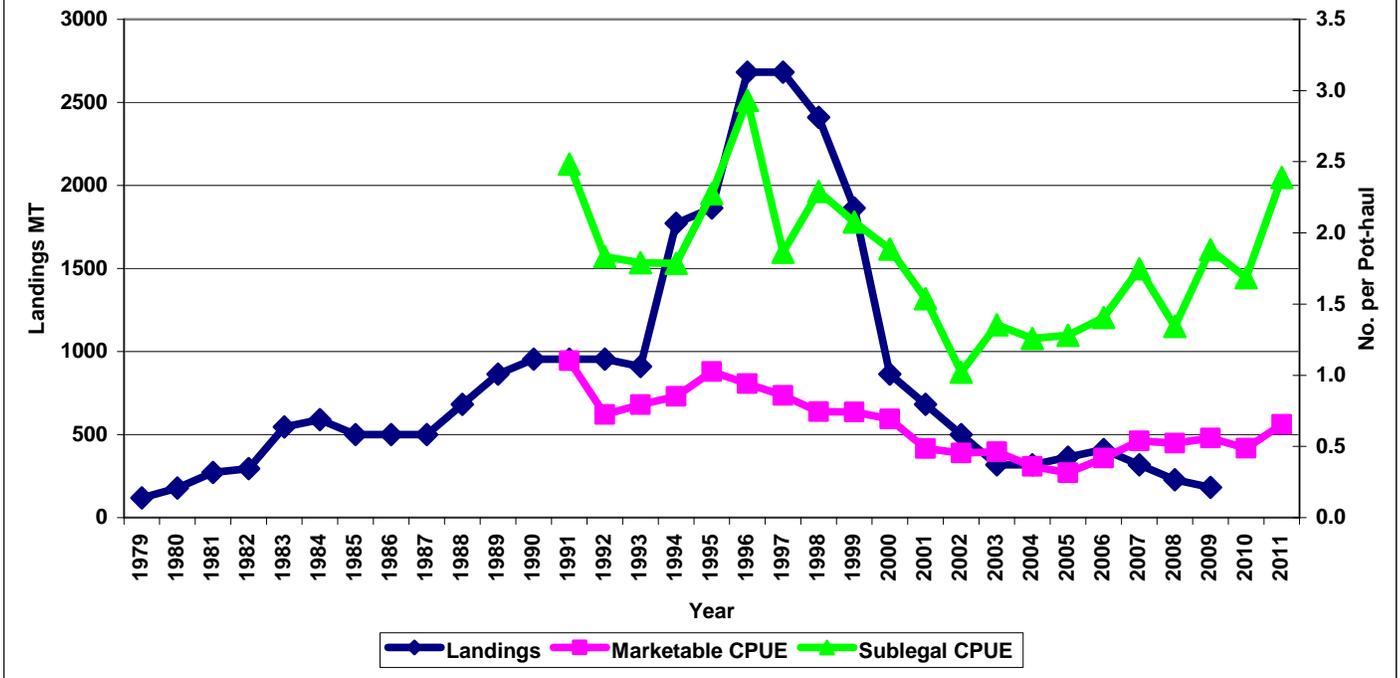


Figure 5 – Total lobster abundance as estimated by the University of Maine Length Based Model in the 2009 lobster stock assessment. The median (yellow) and 25th percentile (red) of the 1984-2003 reference period are noted.

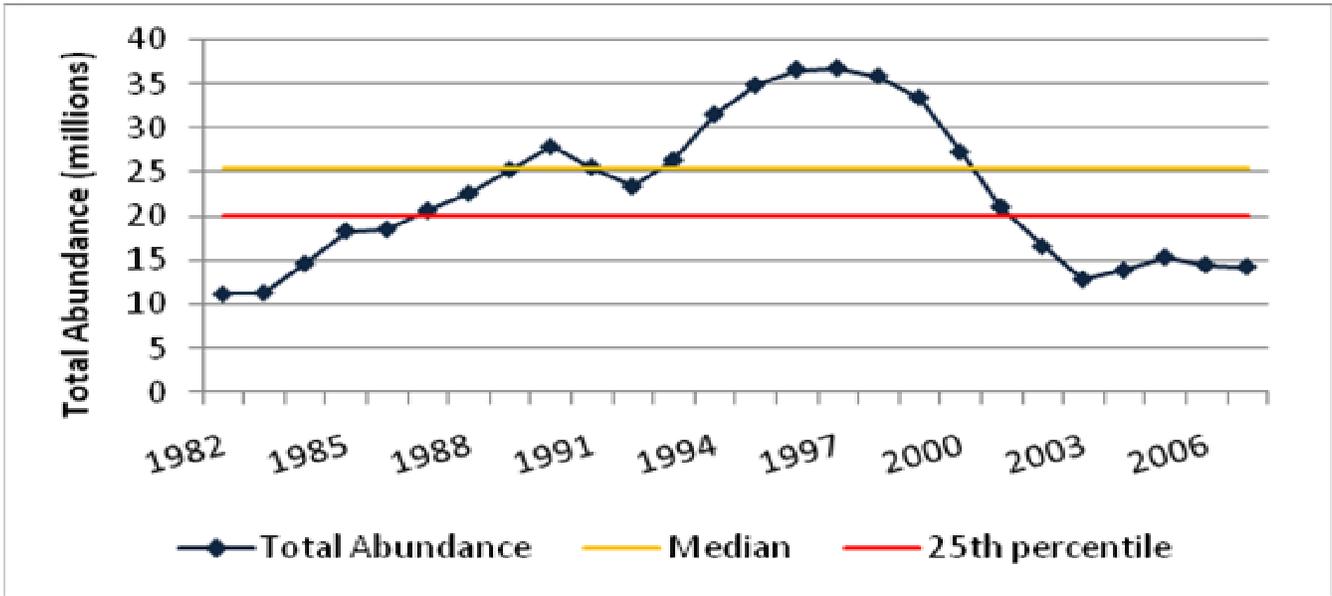


Figure 6 - RI Cancer Crab Fishing Mortality Rate Compared to MSY Reference Level

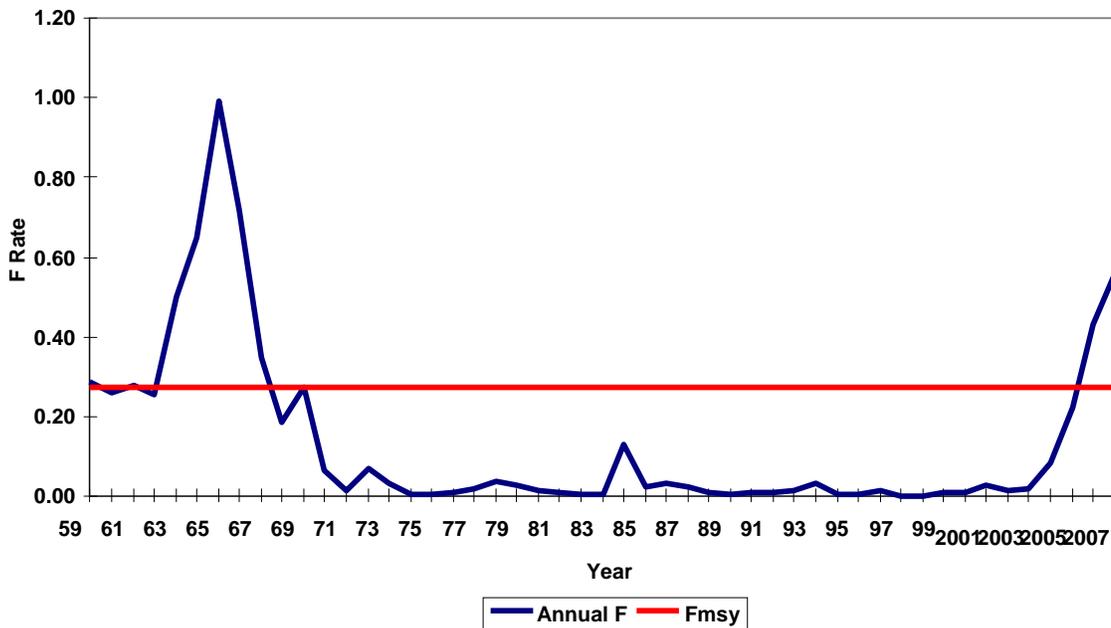


Figure 7 - RI Cancer Crab Abundance and Landings Compared to MSY Reference Level

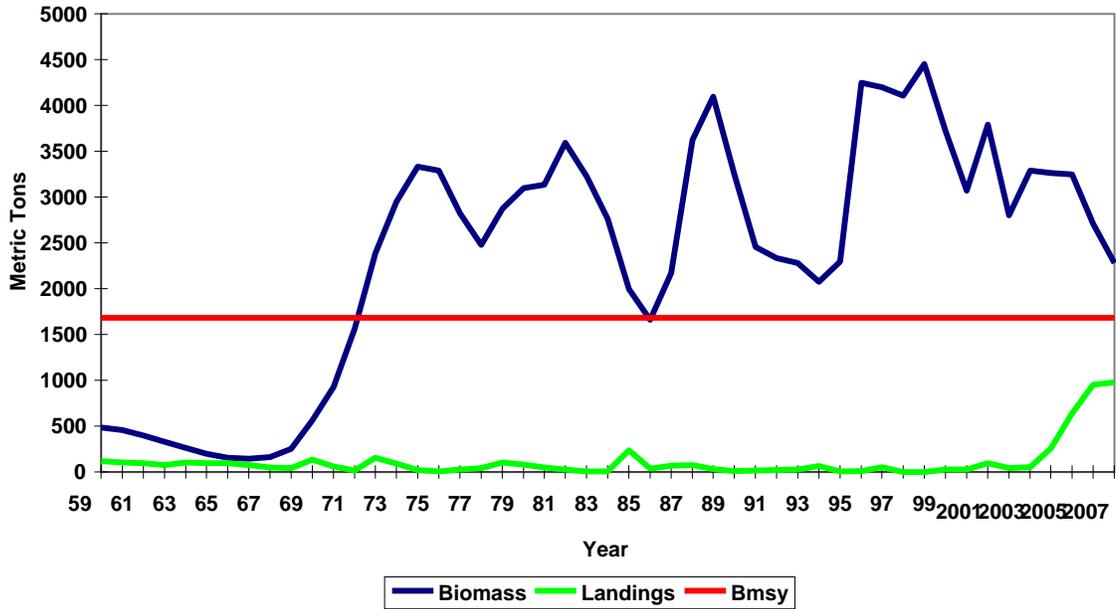


Figure 8: Abundance of Cancer Crab in the URIGSO Trawl Survey, 1959-2011.

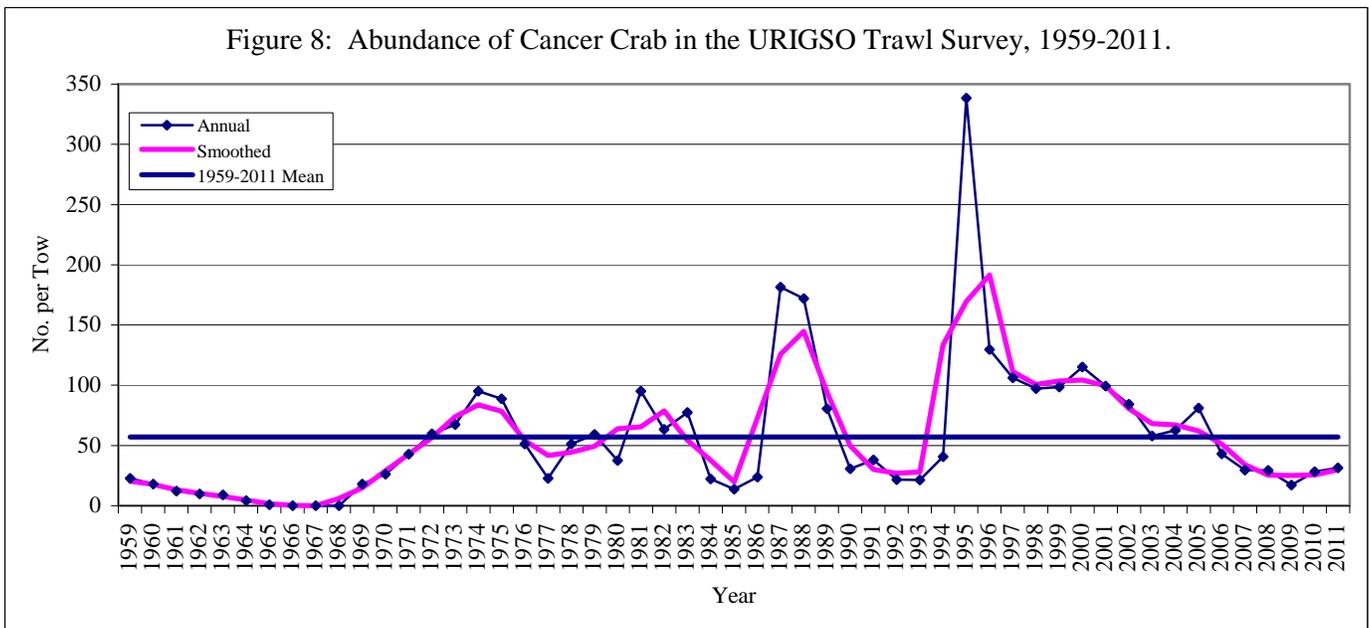


Figure 9: Abundance of Blue Crab in the URIGSO Trawl Survey, 1959-2011.

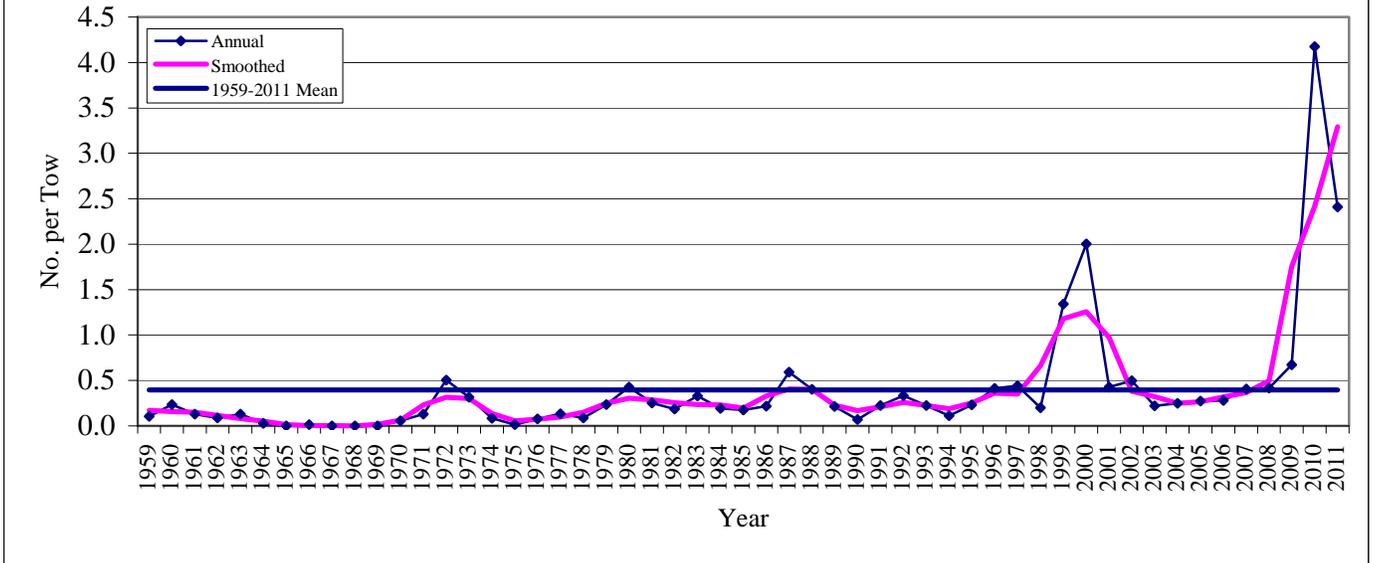


Figure 10 - RI Horseshoe Crab Fishing Mortality Rate Compared to MSY Reference Level

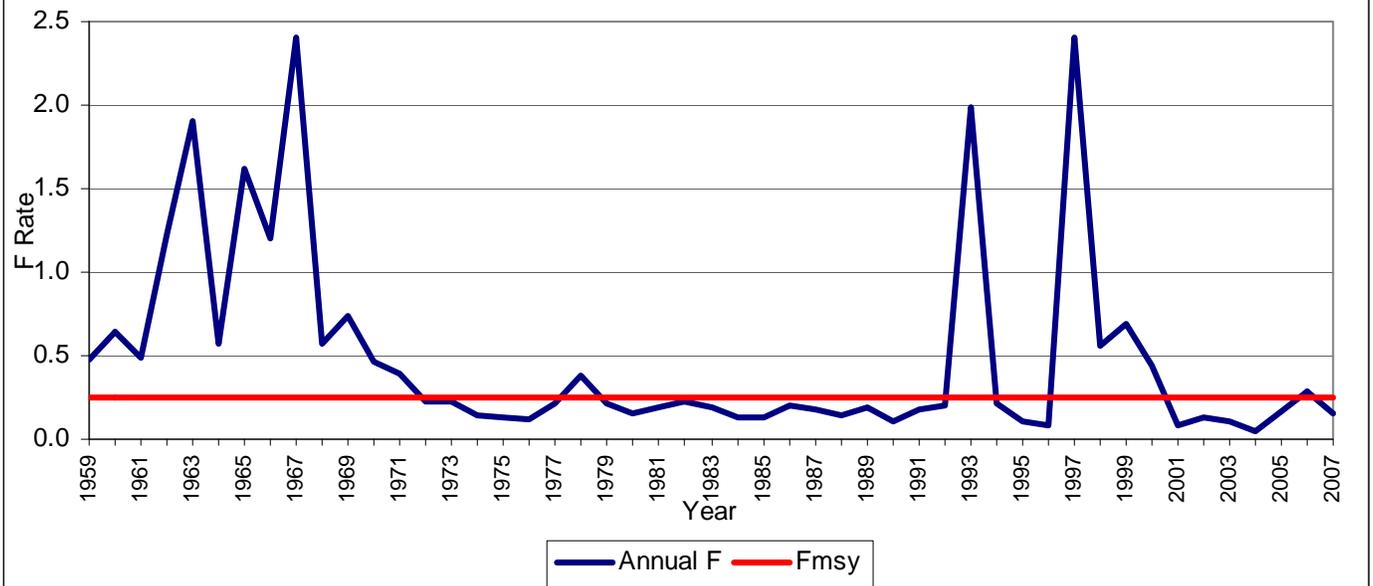
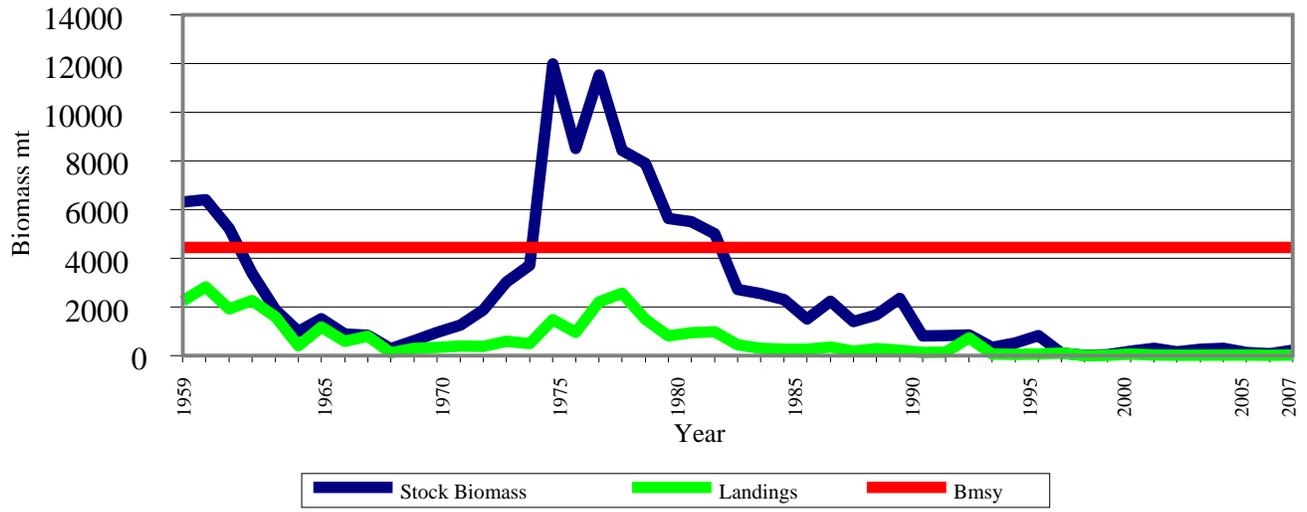


Figure 11 - RI Horseshoe Crab Abundance and Landings Compared to MSY



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.

Janet L. Coit, Director
Department of Environmental Management

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