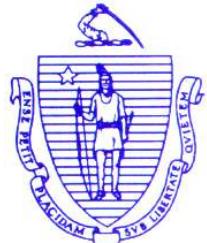




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MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Acting Director *Daniel J. McKiernan*

DATE: December 13, 2019

SUBJECT: Proposed Adjustments to Period II Summer Flounder Trawl Fishery

Proposal Overview

This memo addresses the management of the summer flounder trawl fishery south of Cape Cod during Period II (April 23 – December 31). DMF is proposing a series of regulatory changes in response to recent substantial quota increases, the performance of the Period II fishery in 2019, and input from stakeholders at the December 4 industry meeting. These proposals are enumerated below. DMF expects to hold public hearings on these items in early-March 2020 for potential final implementation later in the spring.

1. Renew the pilot program that was initiated in 2019 to allow trawlers to retain and land two consecutive days limits of summer flounder with prescribed segregation of catches and tagging of containers. Begin this program on June 10 with the start of Period II's directed summer flounder fishery.
2. Increase the daily trawler trip limits from 300 pounds up to 400 pounds during the June 10 – October 31 season.
3. Increase the daily hook and line trip limits from 200 pounds to 250 pounds during the June 10 – October 31.
4. During the November 1 – December 31 season, eliminate closed fishing days (Fridays and Saturdays) and increase the trip limit to 1,000 pounds for all gear types provided at least 5% of the annual quota remains available.
5. Allow CAP permit holders – who do not have a (limited entry) horseshoe crab endorsement – and who are fishing for summer flounder during the summer period to have an incidental horseshoe crab limit of 75 crabs per trip. This action would negate the ongoing issuance of Letters of Authorization (LOA) for the retention of horseshoe crabs (up to 300) by these fishermen.
6. Adjust the incidental black sea bass catch allowances for trawlers fishing in the springtime squid fishery (April 23 – June 9) and summertime Nantucket Sound trawl fishery (June 10 – October 31) to allow greater retention of saleable fish and reduce regulatory discards. This specific issue is dealt with in greater detail in a separate commercial black sea bass memorandum.

Background

The state's commercial summer flounder quota is currently managed by two distinct quota periods (Table 1). Period I (January 1 – April 22) is allocated 30% of the annual quota. This accommodates the harvest of summer flounder by the wintertime offshore trawl fishery. Period II (April 23 – December 31) is allocated the remaining 70% (and any underage from Period I). This accommodates the harvest of summer flounder by the inshore fishery. A 100 pound incidental trip limit is allowed during the small mesh trawl squid fishery (April 23 – June 9), consistent with the maximum amount of summer flounder bycatch that may be retained when fishing with small mesh as specified by the interstate fishery management plan. Then there is a summertime directed fishery (June 10 – December 31). During the directed fishery, large mesh trawlers are allowed to retain and land up to 300 pounds of summer flounder while anglers are allowed 200 pounds. Open fishing days are Sundays through Thursdays. These limits may be adjusted in-season by DMF with approval of the MFAC.

Table 1 2019 Commercial Summer Flounder Limits

Period	Season	Gear	Open Days	Trip Limit	Min Size
Period I	Jan 1 – Jan 31	All	Closed	0 lbs	14"
Period I	Feb 1 – Apr 22	All	Sun - Sat	500 lbs	14"
Period II	Apr 23 – Jun 9	Nets	Sun - Sat	100 lbs	14"
Period II	Apr 23 – Jun 9	Longlines	Sun - Sat	100 lbs	14"
Period II	Jun 10 – Sept 20	Nets	Sun - Thu	300 lbs	14"
Period II	Jun 10 – Sept 20	Hook and Line	Sun - Thu	150 lbs	14"
Period II	Sept 21 – Oct 31*	Nets	Sat - Thu	300 lbs	14"
Period II	Sept 21 – Oct 31*	Hook and Line	Sat - Thu	150 lbs	14"
Period II	Nov 1 – Dec 31*	All	Sun - Sat	1,000 lbs	14"

* Limits for season set by in-season adjustment.

The summertime trawl fishery is subject to a minimum net mesh requirement of 6.5" inches in the cod end and 6" throughout (large mesh). It is a mixed species fishery with fishermen also taking whelks (primarily knobbed whelks), horseshoe crabs, and small amounts of scup and black sea bass. The catch and retention of scup and black sea bass is low due to escapement of these species from the 6.5" mesh nets and the areas and times of day when fishing activity occurs.

Trends in Quota Management and Fishery Performance

In 2019, the coastwide commercial fluke quota was increased by about 80% with Massachusetts' commercial quota increasing from 413,361 pounds (2018) to 741,532 pounds (2019). However,

this quota increase was not approved until late-winter in 2019, and as a result, DMF was unable to respond in a timely manner and provide the Period I fishery with additional access in 2019. For 2019, the Period I fishery only landed 3% of the overall quota and 97% of this elevated quota (~720,000 pounds) was available to the Period II fishery. The remaining quota allocation was not taken during Period II and as of this week only about 30% of the overall quota is available.

The quota is expected to remain at or above this level through at least 2021¹. For 2020, DMF anticipates the quota will be set at about 786,000 pounds. With this in mind, DMF took steps to increase access to the Period I quota in 2020. This includes allowing fishing in January, increasing the trip limit from 500 pounds to 1,000 pounds, and establishing a pilot program (in cooperation with other states) allowing vessels to possess multiple limits from multiple states when landing in Massachusetts. Additionally, DMF may consider making an in-season increase to the Period I trip limit if warranted. Given these changes, it is possible no portion of the Period I quota allocation is rolled into Period II. If this occurs, the Period II will have about 546,000 pounds of quota available. This approximates the total landings thus far in 2019.

In terms of recent performance, I bring your attention to Figures 1-5 in the appendix of this document. These figures demonstrate fishery trends in recent years with a focus on performance in 2019. There are a few key take-away points:

- Catch and effort was lower in 2019 than it was in previous years producing lower daily catch rates (Appendix – Figures 1 and 2).
- Ex-vessel value was lower in 2019 than it was in prior years (Appendix – Figure 3).
- Trawlers typically limit out on a daily basis with most trips landing between 200 and 300 pounds of summer flounder. However, this is not the case with few hook and line fishermen landing their entire trip limit, with most trips only landing between 1 pound and 100 pounds (Appendix – Figures 4 and 5).

DMF held a 90-minute open industry meeting on December 4, 2019 to discuss with industry how to use the available quota and whether or not existing limits should be adjusted. In attendance were representatives from Red's Best and Atlantic Coast Seafood – two of the more active summertime primary buyers – and commercial fishermen Tim Barrett, Mark Plachowicz, Peter Krzyzewski and Robert Dutra. Representatives from the biomedical firm the Associates of Cape Cod were also in attendance to discuss the issues germane to the trawler harvest of horseshoe crabs. Mike Pierdinock and Ray Kane attended on behalf of the MFAC. In the section below find a summary of the various issues discussed at this meeting, which provide rationale as to why DMF is making the above stated proposals.

Meeting Summary and Rationale for Proposed Measures

Summer Flounder Pilot Program

DMF intends to renew its pilot program allowing trawlers fishing during the summertime summer flounder fishery to possess and land consecutive days limits of summer flounder provided the fish from the first day is appropriately segregated and sealed with a DMF-issued plastic seal. For 2020,

¹ The ASMFC and MAFMC set a constant commercial quota of 11.53 million pounds for 2019–2021. However, a revised state-by-state allocation formula is expected to take effect in 2021, which would result in roughly another 100,000 lb of quota for MA that year. The quota for subsequent years will depend on the 2021 stock assessment.

this pilot program will begin on June 10. Recall that at the August 15, 2019 MFAC business meeting, commercial fisherman Mark Plachowicz requested DMF consider adopting such a pilot program. He stated that this would allow the fleet to operate more efficiently by laying up overnight at-sea (or in Nantucket Harbor) closer to the fishing grounds, which was particularly important given the fish were further east than usual.

DMF implemented the program later in August. Industry supported the implementation of this program citing greater efficiency and reduced overhead by cutting fuel costs and daily dockage fees. Accordingly, DMF was interested in renewing the program for 2020, and determining when in the season it should begin. Based on the comments provided at the December 4 meeting, industry favored starting the pilot program at the June 10 start of the directed summer flounder trawl fishery (rather than a date certain later in the season or in response to quota availability).

There was also some discussion about broadening the pilot program to similarly accommodate the catch of other species caught in this mixed trawl fishery. There are practical limitations and safety concerns related to segregating multiple containers fish. This would also present potential enforcement challenges. Accordingly, DMF does not intend allow multiple days' catch of other species other than summer flounder at this time; the trip limits for other species caught by the trawl fleet will continue to apply.

Summer Flounder Limits

DMF is proposing to potentially increase the summer flounder trip limits to accelerate the consumption of the quota and to improve daily revenues for the active participants. Specifically, the proposal is to increase the trawl trip limit from 300 pounds to 400 pounds and the hook and line trip limit from 200 pounds to 250 pounds for the June 10 through October 31 season (the existing open days of Sunday–Thursday will remain status quo).

In recent years, industry has not supported increasing the trip limit above current levels. This is due to apprehensions that additional supply may result in the deterioration of the ex-vessel value. This opposition to increased trip limits was particularly pronounced in 2019 given the lower ex-vessel value for summer flounder. These concerns were a major factor in DMF's decision not to increase the trip limits in the early fall (September and October) to facilitate the landing of the remaining 2019 quota.

At the December 4 meeting, dealers speculated the low ex-vessel value in 2019 was a product of both the 80% increase in the coastwide quota and a preponderance of medium grade fish in Massachusetts waters (as opposed to large or jumbos that receive a higher ex-vessel value). Given the coastwide quota will remain at similar levels in 2020, the overall supply of fish will likely remain high and ex-vessel could remain lower than normal (particularly if conditions are similar to 2019 and the catch is dominated by medium grade fish). However, it was thought that overall value could be recouped by higher daily landing limits. Dealers noted that they did not believe ex-vessel value would decay by 30% or more if trip limits were increased as proposed. Therefore, the fishery is expected to be more profitable for participants with higher limits.

At the industry meeting, a trip limit as high as 500 pounds for trawlers was proposed. This higher trip limit was of particular interest during June. It was thought that this would allow the trawl fleet to capitalize on expected seasonal high demand. In recent years, the price has typically been

elevated above the mean in the early part of the season (June) and then the price declined below the mean throughout the summer. This trend was quite pronounced in 2019 (Appendix - Figure 3). Dealers speculated that this is due to less coastwide supply in June because of fishery closures in other states. Despite this rationale DMF prefers to take a more cautious approach, particularly given uncertainty regarding how the Period I fishery will perform. DMF can also consider making an in-season adjustment to the trip limit in May for June if warranted.

Based on available data and industry feedback, DMF anticipates that the trawl fleet will be able to readily take advantage of this increase in trip limit and we will see a proportional increase in daily landings as a result (Appendix – Figure 4). However, this may not be the case for the hook and line fishery. Data shows that few hook and line trips approach the existing trip limit (Appendix – Figure 5). Despite this, DMF will propose a trip limit increase for commercial anglers proportional to that proposed for trawlers in order to provide these fishermen with an equitable opportunity to access the available quota.

It is noteworthy that fishermen and dealers also supported maintaining the existing season start date and the open fishing days for the summertime fishery. Accordingly, no changes to these regulations are being proposed. There was some general support for DMF to liberalize the open fishing days regulations for September and October, particularly to account for the loss of days due to deteriorating weather conditions. However, the preference was for DMF to do this through the existing in-season adjustment process rather than adopt a date certain provision.

Lastly, DMF is proposing to adjust the Period II limits during the late-fall and early-winter season (November 1 – December 31). At present, unless an in-season adjustment is made, the summertime limits remain in effect through the end of the calendar year (if quota remains available). However, the fish typically move offshore during the fall, and inshore fishing pressure wanes as the fish become more available to the offshore fishery. The offshore fleet consists of larger vessels on multi-day trips. To be profitable these operations require a higher trip limit than inshore fishermen, as well as the flexibility to land fish seven days per week. Accordingly, if quota remains on November 1, limits should be in place to provide the offshore fleet with the opportunity to target it. For these reasons, DMF is proposing to eliminate the closed fishing days (Fridays and Saturdays) during this season and increase the trip limits to 1,000 pounds if 5% or more of the quota remains available on November 1. This is effectively consistent with the in-season adjustment approved by the MFAC this fall and matches those limits in place for the start of the Period I fishery in 2020.

Allowing an Incidental Catch of Horseshoe Crabs.

DMF proposes to establish an allowance of 75 crabs per trip for trawlers fishing in this summertime fishery who do not hold a limited entry horseshoe crab endorsement. Concurrent with this change, DMF will no longer issue an annual Letter of Authorization, which previously authorized these trawlers to retain an incidental catch of up to 300 horseshoe crabs per trip (the same as permit endorsement holders) when fishing for summer flounder.

In Massachusetts, horseshoe crabs are most commonly caught and landed in commercial hand harvest and trawl fisheries. These crabs are taken for bait purposes and subject to a commercial bait harvest quota of 165,000 crabs. These crabs are used as bait for whelk pot and eel pot fisheries. The biomedical firm, the Associates of Cape Cod, also borrows live crabs from bait

dealers to supplement their biomedical crab supply. The firm bleeds live horseshoe crabs to extract limulus amebocyte lysate, which is used to detect bacteriological contamination in medical equipment.

In 2019, for the first time ever, the horseshoe crab bait quota harvested. The quota was taken on August 31 and the fishery closed on September 1. As a result of the closure, all trawlers were restricted from retaining any crabs when fishing for summer flounder in September and October. The early quota closure also limited the crabs available to the biomedical industry, subsequently resulting in DMF facilitating the development of experimental biomedical horseshoe crab trawl fisheries.

The state's summertime summer flounder trawl fishery has historically taken and landed horseshoe crabs both as directed catch and incidental catch. The trawl fishery has become an increasingly important source for bait crabs since 2010 when DMF implemented spawning closure measures which severely constrained the hand harvest fishery. In fact, in 2018, harvester data demonstrates the trawl fishery was responsible for 53% (~84,000 pounds) of all horseshoe crab landings.

State regulations currently require fishermen to hold a limited entry regulated fishery permit endorsement to participate in the commercial horseshoe crab fishery. Permitted trawlers are allowed to land up to 300 crabs per day (this limit is not exclusive to the summer flounder season or trips where summer flounder are retained). Historically, most trawlers who participated in the summer flounder trawl fishery also held the horseshoe crab permit. However, as permits are split and endorsements are transferred, some trawlers currently participating in the summertime summer flounder fishery do not have a horseshoe crab endorsement and therefore are prohibited from retaining and landing crabs.

In order to reduce regulatory discarding and facilitate the landing of crabs caught by trawl fishermen, DMF has issued LOAs to allow the retention and landing of horseshoe crabs by non-permit holders. The LOA allows such trawlers to retain and land up to 300 horseshoe crabs per day while fishing for summer flounder and expire once 100% of the summer flounder quota is taken. DMF typically issues about 10 of these LOAs annually, which is representative of about one-third of the active summer flounder trawl fleet in any given year.

Harvester data for 2018 demonstrates LOA fishermen were responsible for about 17% (~14,600 crabs) of horseshoe crab landings that year by trawlers and about 10% of overall horseshoe landings (145,837 crabs). 2019 harvester data has not yet been audited and therefore it is difficult to accurately analyze landings by gear type. However, an initial analysis of dealer data demonstrates that LOA fishermen may have been responsible for upwards of about 7% of all horseshoe crab landings this year and average daily landings for LOA fishermen in 2019 was just over 100 crabs.

The utilization of this year's commercial horseshoe crab quota brought the current LOA program under some scrutiny and afforded DMF with an opportunity to reevaluate how it addresses the regulatory discarding of crabs by trawlers who do not hold a limited entry horseshoe crab permit. DMF received feedback from active trawlers who stated that the existing 300 crab allowance accommodates a directed crab fishery, whereas a more nominal allowance of crabs would be

sufficient to accommodate incidental catch when trawling for fluke. Accordingly, DMF is proposing to establish a 75 crab incidental by-catch limit for trawlers participating in the Period II summer flounder fishery and eliminate the existing LOA program. If adopted, this may have the added benefit of keeping the horseshoe crab fishery active later into the year and satisfying late season biomedical demand.

Incidental Catch of Black Sea Bass.

DMF is also proposing to adjust the state's incidental limits for the catch of black sea bass taken in the trawl fisheries south of Cape Cod. These measures are being proposed to facilitate the retention of saleable fish and reduce regulatory discarding. DMF does not anticipate these proposed actions will result in a directed trawl fishery for black sea bass, as there is limited economic incentive to target the fish at these nominal limits, and moreover the retention of sea bass in 6.5" mesh fluke trawls is low. This proposal is discussed in more detail in the memorandum setting forth proposals to adjust the summertime black sea bass limits.

Attachments

Appendix

Draft strikethrough regulations

**Appendix to December 13, 2019 Memorandum to MFAC
Proposed Adjustments to Period II Summer Flounder Trawl Fishery**

Figure 1.
2018 and 2019 Commercial Summer Flounder Quota Monitoring Graph

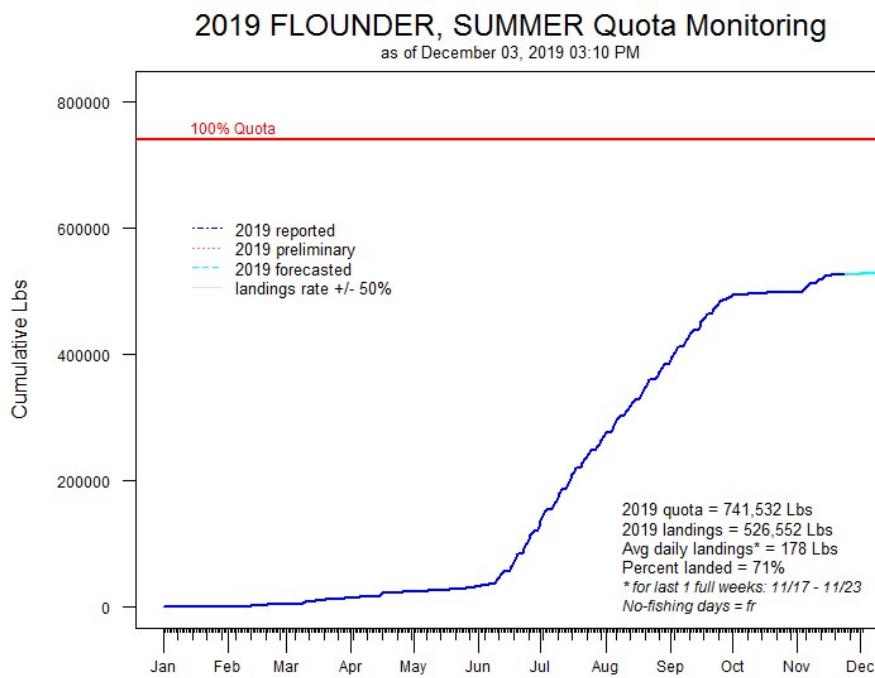
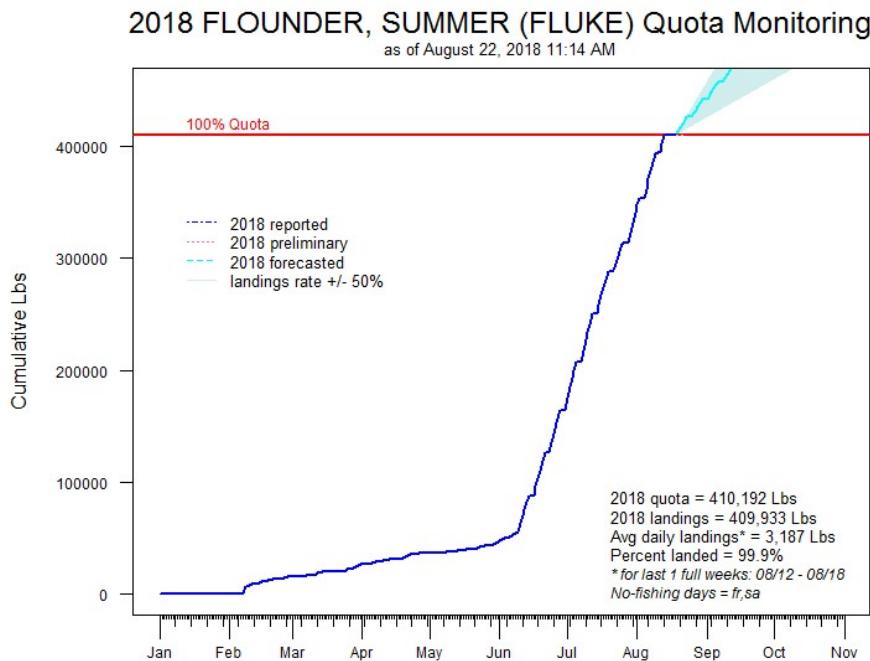


Figure 2.

Commercial Summer Flounder Permit Activity Trends (2013 – 2019)

Endorsement	2013	2014	2015	2016	2017	2018	2019
Issued	791	771	739	721	697	674	658
Active	266	209	224	223	180	163	N/A

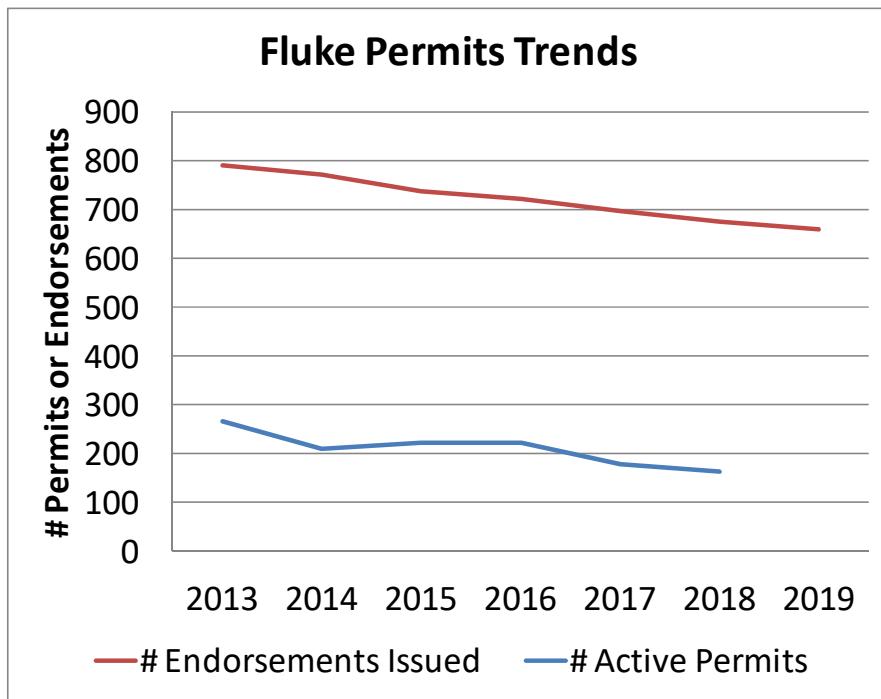


Figure 3.
Commercial Summer Flounder Landing and Value Trends 2015 - 2019

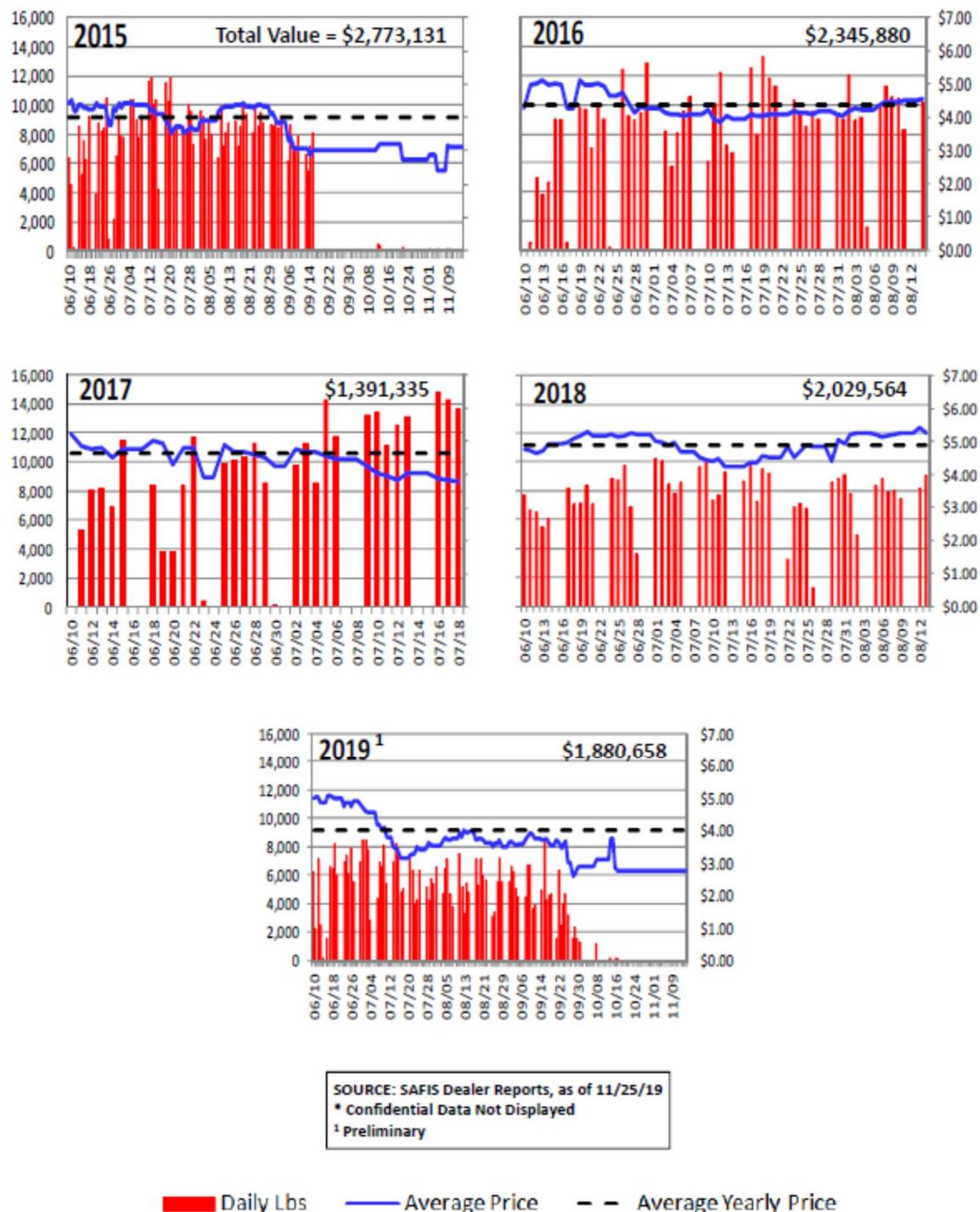
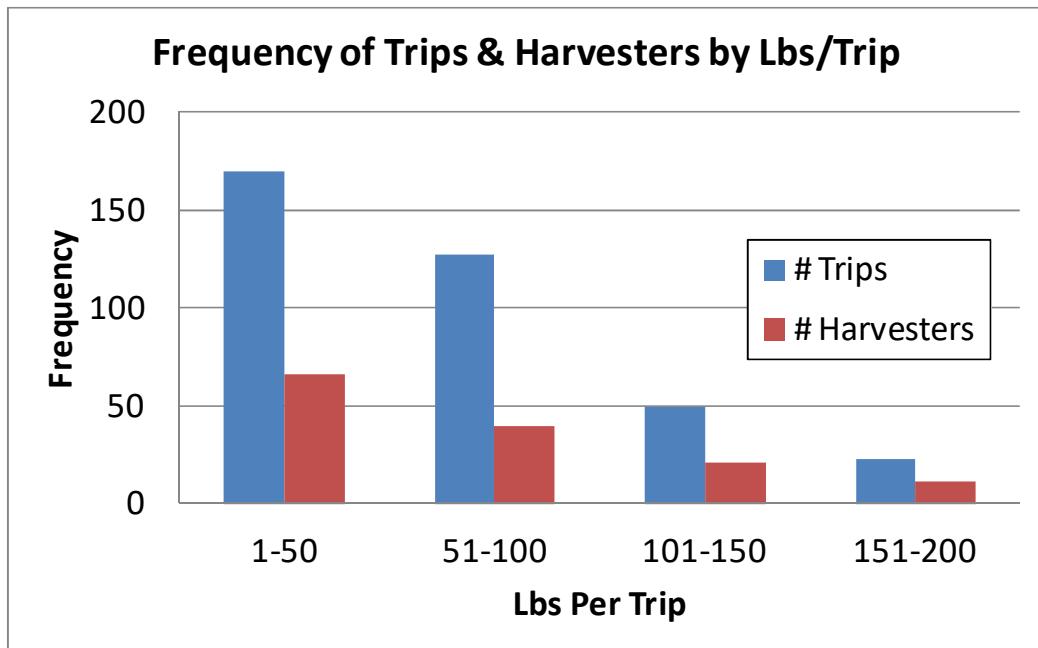


Figure 4.
2018 Effort Analysis for Summer Flounder Hook and Line Fishery
Frequency of Trips & Harvesters by Pounds Per Trip

Number of Active Harvesters	76
Total Number of Trips	369

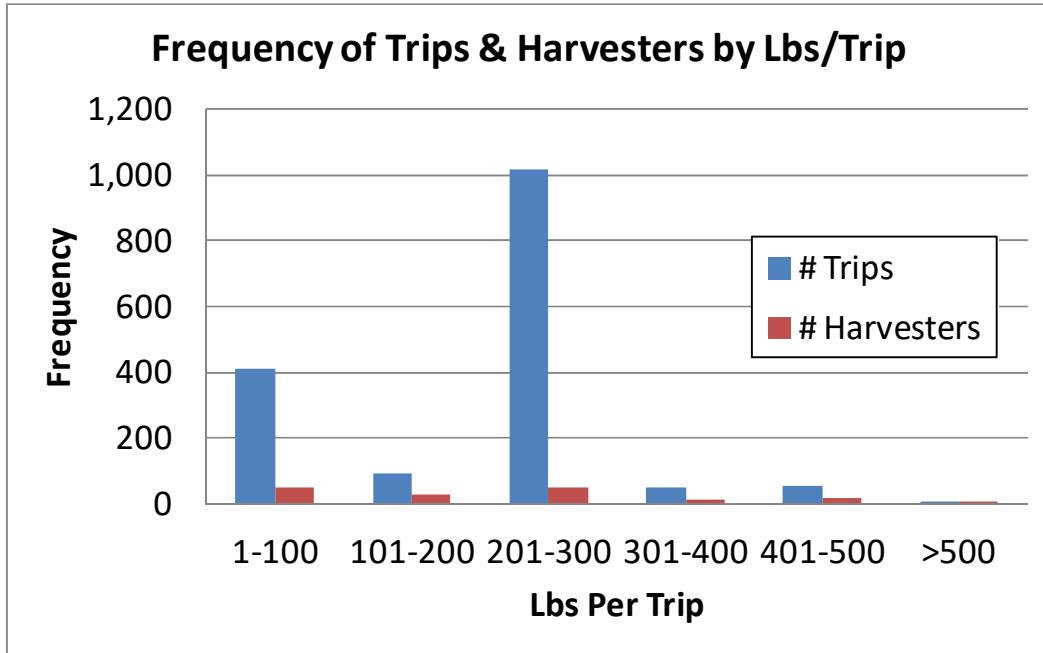


SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 12/2/19

Figure 5.

2018 Effort Analysis for Summer Flounder Trawl Fishery
Frequency of Trips & Harvesters by Pounds Per Trip

Number of Active Harvesters	81
Total Number of Trips	1,630



SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 12/2/19

322 CMR 6.22 Summer Flounder (Fluke) Restrictions

(2) Commercial Fishery.

(a) Minimum Size. It shall be unlawful for commercial fishermen to land or possess summer flounder less than 14 inches in total length.

(b) Seasonal Quota Allocations. The annual quota shall be split with a target allocation of 30% to the Period I fishery that occurs from January 1st through April 22nd, and 70% allocated to the Period II fishery that occurs from April 23rd through December 31st. Any unused portion of the quota from Period I may be re-allocated to Period II. Overharvest of either period allocation may be deducted from the corresponding period in the following year.

(c) Period I (January 1st through April 22nd).

1. From January 1st through April 22nd, or until 25% of the annual quota has been reached, it shall be unlawful for any commercial fisherman to retain, possess or land any summer flounder using any gear other than nets. During this period fishermen using nets may retain, possess or land up to 1,000 pounds of summer flounder during any calendar day or trip, whichever period is longer.

3. Once 25% of the annual quota has been reached, it shall be unlawful for any commercial fisherman using nets to retain, possess or land more than 100 pounds of summer flounder during any calendar day or trip, whichever period is longer.

(d) Period II (April 23rd through December 31st).

1. April 23rd through June 9th. During this period, it shall be unlawful for any commercial fisherman to retain, possess or land:

- a. more than 100 pounds of summer flounder caught with nets or longlines during a 24-hour day.
- b. any summer flounder caught with handlines or rod-and-reel.

2. June 10th through October 31st ~~December 31st~~. During this period, it shall be unlawful for any commercial fisherman to retain, possess or land:

- a. any summer flounder on Fridays or Saturdays;
- b. more than **400 pounds ~~300 lbs.~~** of summer flounder when fishing with nets;
- c. more than **250 pounds ~~200 lbs.~~** of summer flounder when fishing with hook and line gear.

3. November 1st through December 31st. During this period, it shall be unlawful for any commercial fisherman to retain, possess or land:

- a. **more than 1,000 pounds of summer flounder during any calendar day or trip, whichever period of time is longer, provided at least 5% of the annual quota remains available to harvest.**
- b. **more than 500 pounds of summer flounder during any calendar day or trip, whichever period of time is longer, if 5% or less of the annual quota remains available to harvest.**

(e) Quota Closure. It shall be unlawful for any commercial fisherman to retain, possess or land summer flounder once the Director has determined that 100% of the annual commercial summer flounder quota has

been reached. The quota closure will be enacted and announced in accordance with the procedure set forth at 322 CMR 6.41(2)(c).

(f) Vessel Limits. The landing/possession limits described in 322 CMR 6.22(2) shall apply to any vessel involved in the commercial summer flounder fishery, regardless of the number of commercial fishermen with summer flounder special permits on board said vessel.

(g) Landing Prohibition. It is unlawful for commercial fishermen to land or possess summer flounder from 8:00 P.M. through 6:00 A.M.

(h) Inspection. Commercial fishermen shall keep all summer flounder separate from the rest of the vessel's catch and readily available for immediate inspection by the Division of Environmental Law Enforcement.

(i) Requirements for Dealers. All dealers authorized as primary buyers permitted in accordance with G.L. c. 130 and 322 CMR 7.01(3) and 7.07 shall obtain a federal dealer permit from the National Marine Fisheries Service to purchase fluke directly from commercial fishermen during the Period I commercial fluke fishery.

6.28: Black Sea Bass Fishery Management

(2) Commercial Fishery Management.

3. Black Sea Bass Bycatch Allowance for Trawlers.

a. Small Mesh Trawl Squid Fishery. During the small mesh trawl squid fishery, as established at 322 CMR 4.06(5)(a), commercial fishermen permitted in accordance with 322 CMR 7.01(4)(a) to fish with small mesh trawls for squid and retain black sea bass may retain, possess and land up to 100 pounds of black sea bass per calendar day or trip, whichever period is longer. When the small mesh trawl fishery for squid closes or once aggregate landings by trawlers have combined to land 50,000 pounds of black sea bass, whichever occurs first, it shall be unlawful for trawl fishermen to possess black sea bass until the directed Period II trawl fishery for summer flounder, managed in accordance with 322 CMR 6.22(2)(d)(2), opens on June 10.

b. Summertime Summer Flounder Trawl Fishery. Beginning on June 10, commercial fishermen permitted in accordance with 322 CMR 7.01(4)(a) to fish with trawls and retain black sea bass may retain, posses, and land up to 100 pounds of black sea bass on Sundays, Mondays, Tuesdays, Wednesdays, and Thursday during the Period II summer flounder fishery, as set forth at 322 CMR 6.22(2)(d)(2).

6.34: Horseshoe Crab Management

(1) Purpose. The purpose of 322 CMR 6.34 is to comply with the Interstate Management Plan for horseshoe crabs to manage horseshoe crab populations for continued use by current and future generations of the fishing and non-fishing public including the biomedical industry, scientific and educational research; migratory shorebirds; and, other dependent fish and wildlife. The plan requires the Commonwealth to monitor and control harvest levels by all sectors and conserve crabs through a commercial quota for crabs harvested as bait.

(2) Definitions.

Asian Horseshoe Crab means those species of horseshoe crab identified as *Carcinoscorpius rotundicauda*, *Tachypleus gigas* and *Trachypleus tridentatus*.

Commercial fisherman means any person fishing under the authority of a permit issued in accordance with G.L. c. 130 s. 80 and 322 CMR 7.01(2) for the purpose of sale, barter or exchange, or to keep for personal or family use any fish caught under the authority of a commercial fisherman permit.

Horseshoe Crab means that species known as *Limulus polyphemus*.

Mobile Gear means any moveable gear or encircling fishing gear or nets, which are towed, hauled or dragged through the water for the harvest of fish. This includes, but is not limited to, pair trawls, otter trawls, beam trawls, mid-water trawls, Scottish seines, pair seines, purse seines or shellfish dredges.

Trip means that period of time that begins when a fishing vessel departs from a dock, berth, beach, seawall, ramp or port to carry out commercial fishing operations and that terminates with a return to a dock, berth seawall, ramp or port.

(3) **Permit. Except as authorized at 322 CMR 6.34(5)(a), (b), and (e) it shall be unlawful for any person to harvest any horseshoe crabs without one of the following permits.**

(a) **Horseshoe Crab Harvest** Regulated Fishery **Horseshoe Crab Harvest** Permit Endorsement. A regulated fishery horseshoe crab harvest permit endorsement, issued by the Director pursuant to the authority at 322 CMR 7.01(4)(a), is needed to retain, possess, land or sell horseshoe crabs in accordance with the limits set forth at 322 CMR 6.34(5)(c) and (d). The holder of the regulated fishery horseshoe crab harvest permit endorsement shall not be allowed to obtain a special biomedical horseshoe crab harvest permit. ~~It shall be unlawful for any person to take, land or possess more than six horseshoe crabs (*Limulus polyphemus*) per day for any purpose without a regulated fishery permit for horseshoe crabs issued by the Director pursuant to 322 CMR 7.01(4)(a); Regulated Fishery Permit Endorsement. Licensed pot fishermen using horseshoe crabs as bait may possess more than six horseshoe crabs without a regulated permit, provided their documented source is a wholesale or bait dealer.~~

(b) **Special Biomedical Horseshoe Crab Harvest Permit**. Harvesters collecting horseshoe crabs exclusively for use by the biomedical industry for the manufacture of *limulus lysate* or sale to a permitted scientific institution for research purposes must obtain a special permit issued in accordance with 322 CMR 7.01(4)(c). ~~(4): Special Biomedical Horseshoe Crab Harvest Permit limited to that purpose.~~ The holder of the **special** biomedical **horseshoe crab harvest permit** **special permit** shall not be allowed to obtain a Horseshoe Crab Permit.

(4) **Bait Harvest Quota**. The annual quota for horseshoe crabs harvested for bait purposes shall be 165,000 crabs. Horseshoe crabs harvested solely for biomedical or research purposes by harvesters licensed under 322 CMR 6.34(3)(a) which are bled and released alive in the area of capture or used for display or research shall not be counted against the annual quota established by the Atlantic States Marine Fisheries Commission. When 100% of the annual quota is reached, the Division shall file a notice of the horseshoe crab bait fishery closure with the *Massachusetts Register*, email a notice via the Marine Fisheries Listserv and post a notice on the Division's website.

(5) **Possession Limits**. Possession limits shall be vessel limits and shall apply regardless of the number of persons or permit holders aboard a vessel or working in conjunction with a vessel. It shall be unlawful for any person to harvest more than the possession limit in a day regardless of the number of permits held.

(a) **Non-Commercial Limit.** Except as authorized by 322 CMR 6.34(5)(b)-(f), it shall be unlawful for any person to retain, possess or land more than six horseshoe crabs per day. Any crabs retained pursuant to this limit shall not be sold, bartered, exchanged or offered for sale.

(a) **Bait Crab Harvesters Using Mobile Gear.** ~~It shall be unlawful for any commercial fisherman using mobile gear, as defined at 322 CMR 4.06(1): *Definitions*, permitted to harvest horseshoe crabs for bait purposes, in accordance with 322 CMR 7.01(4)(a): *Regulated Fishery Permit Endorsement*, to take, possess or land more than 300 horseshoe crabs during any fishing trip or calendar day, whichever is longer.~~

(b) **Open Access Mobile Gear Incidental Horseshoe Crab Limit.** Commercial fishermen who hold a Coastal Access Permit for the use of mobile gear, issued in accordance with 322 CMR 7.01(4)(a), who do not also hold a limited entry regulated fishery permit endorsement for horseshoe crabs, issued in accordance with 322 CMR 6.34(3)(a) and 7.01(4)(a), may retain, possess, land and sell up to 75 horseshoe crabs taken by mobile gear for bait purposes when participating in the Period II summer flounder fishery, regulated at 322 CMR 6.22(2)(d). This limit shall apply per calendar day or trip, whichever period is longer. Under this allowance, fishermen are prohibited from fishing for, retaining, possessing and landing horseshoe crabs on days and during seasons when the Period II summer fishery is closed to the retention, possession and landing of summer flounder.

(c) **Regulated Bait Crab Harvest Using Mobile Gear.** ~~It shall be unlawful for commercial fishermen using mobile gear and permitted to harvest horseshoe crabs for bait purposes in accordance with 322 CMR 6.34(3)(a) and 7.01(4)(a), to retain, possess or land more than 300 horseshoe crabs per calendar day or trip, whichever period is longer.~~

(d) **(b) Bait Crab Harvesters Using Gears Other than Mobile Gear.** ~~It shall be unlawful for any commercial fisherman using gears other than mobile gear and, as defined in 322 CMR 4.06(1): *Definitions*, permitted to harvest horseshoe crabs for bait purposes, in accordance with 322 CMR 7.01(4)(a): *Regulated Fishery Permit Endorsement*, to take, possess or land more than 400 horseshoe crabs during any 24-hour period beginning at 12:00 P.M.~~

(e) **(c) Biomedical Crab Harvester.** ~~It shall be unlawful for any fishermen permitted to harvest horseshoe crabs for biomedical purposes, in accordance with 322 CMR 7.01(4)(a): *Regulated Fishery Permit Endorsement*, to take, possess or land more than 1,000 horseshoe crabs during any 24-hour period beginning at 12:00 P.M.~~

(f) **(d) Exemption.** ~~Possession limits shall not apply to lawfully harvested horseshoe crabs held in storage by licensed conch pot or eel pot fishermen permitted in accordance with 322 CMR 7.01(4)(a): *Regulated Fishery Permit Endorsement* or bait dealers permitted in accordance with 322 CMR 7.01(3): *Dealer Permits*.~~ The possession limits set forth at 322 CMR 6.34(5)(b)-(e) shall not apply to:

1. Pot fishermen, permitted in accordance with 322 CMR 6.12(2) and 322 CMR 7.01(4)(a), who are using horseshoe crabs as bait, provided their documented source of bait is a permitted wholesale dealer or authorized dealer or they are held in storage by the fisherman.

2. Wholesale dealers and bait dealers permitted in accordance with 322 CMR 7.01(3).

(6) Biomedical/Research Harvest.

(a) Authorization. Biomedical harvest permit holders must sell horseshoe crabs only to a dealer authorized by the Director to receive crabs harvested exclusively for biomedical purposes.

(b) Live Release.

1. Biomedical Permit Holders shall return all horseshoe crabs not used for display or research, other than bleeding, alive to the area of capture.

2. Dealers authorized by the Director to receive crabs harvested exclusively for biomedical purposes shall:

a. keep horseshoe crabs supplied by biomedical permit holders separate from horseshoe crabs supplied by bait permit holders; and

b. ensure horseshoe crabs supplied by biomedical permit holders are returned for live-release back into the same area of capture.

(c) Temporary Use of Horseshoe Crabs Harvested for Bait Purposes. If a biomedical company or permitted scientific institution chooses to purchase horseshoe crabs from bait dealers:

1. the company or institution shall keep records sufficient to show the number and source(s) of said horseshoe crabs;

2. horseshoe crabs purchased by a biomedical company from bait dealers may be returned to bait dealers to be sold as bait.

(d) Horseshoe Crabs Imported from Other States for Biomedical Purposes shall be counted against the quota of the producing state or returned to the producing state for release, according to established rules and regulations of the state of origin.

(7) Closed Days.

(a) Lunar Closures. It shall be unlawful to harvest horseshoe crabs within a series of five day periods coinciding with each new and full moon during the period of April 16th through June 30th, as published by the US Naval Observatory and adjusted for Eastern Daylight Savings Time. Lunar closures shall commence at 12:00 A.M. two days prior to, and end at 11:59 P.M. two days after the date of the full or new moon.

(b) Mobile Gear No-fishing Days. In addition to closures described in 322 CMR 6.34(7)(a) ~~(8)(a)~~, Permit Holders using mobile gear shall be prohibited from fishing for horseshoe crabs on Fridays and Saturdays during the summer flounder summer season beginning on June 10th and ending when the summer-time summer flounder quota is reached.

(8) Closed Areas.

a. Pleasant Bay Complex. All waters within Pleasant Bay, as defined at 322 CMR 4.02(2)(c)(9) are closed to the harvest of horseshoe crabs, except as authorized at 322 CMR 6.34(6) for biomedical harvest and research.

b. Declaration of Temporary Horseshoe Crab Harvest Closures. The Director may temporarily close any area to the taking of horseshoe crabs subject to the procedure below:

1. It has been approved by a majority of the members of the Marine Fisheries Advisory Commission;
2. A Declaration of Closure has been filed with the Massachusetts Secretary of State for publication in the *Massachusetts Register*;
3. A Declaration of Closure has been published in a local newspaper of record and posted on the Division of Marine Fisheries' Legal Notice website; and
4. A Declaration of Closure has been distributed via the Division's e-mail list serve and sent directly to affected permit holders.

(9) Minimum Size. It is unlawful to posses a horseshoe crab for commercial purposes with a prosomal width of less than seven inches.

(10) Asian Horseshoe Crab Prohibition. It shall be unlawful to import, transport, purchase, possess, offer for sale or release into state waters Asian horseshoe crab species.