



JUNE 2010

Horseshoe Crabs

**CURRENT STATE AND FEDERAL POLICIES
AND TEN RECOMMENDATIONS TO PROTECT
THIS KEYSTONE SPECIES**



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Acknowledgements

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What are Horseshoe Crabs?

Horseshoe Crabs (*Limulus polyphemus*) have walked the earth for over 350 million years, having shared this planet with the dinosaurs. Many scientists refer to them as “living fossils.” Horseshoe Crabs have a large, dark brown shell with five pairs of legs, five pairs of gills, a spike-like tail, and bump-like eyes. Female horseshoe crabs are larger than males and can reach a total length of two feet, including the tail. Horseshoe Crabs reach maturity at around ten years of age, molting as they grow. They can live as long as twenty years.



Why are Horseshoe Crabs Important?

Horseshoe Crabs are an integral part of the ecosystem. From migratory birds to sport fish to sharks, Horseshoe Crabs are prey and predators that help keep the ecosystem diverse. Unfortunately, Horseshoe Crab populations are being decimated due to habitat degradation and their use as bait for other eel, conch and other species.

Medical uses: The blood of Horseshoe Crabs contains a critical component, Limulus Amoebocyte Lysate, known as LAL. This unique compound clots when exposed to bacteria or bacterial endotoxins. The U.S. Food & Drug Administration requires all drugs intended for human consumption to be tested using LAL. Some medical equipment and devices such as IV tubing are also tested with LAL. Currently, scientists have no means to reproduce this compound synthetically; therefore Horseshoe Crabs are of vital importance to human drug development.

Keystone species in the food web: Millions of shorebirds stop along our Atlantic beaches to nourish themselves on Horseshoe Crab eggs. Every year, Horseshoe Crabs lay their eggs on beaches at full and new moon high tides from April to June. These eggs are the single most important food source for migrating shorebirds. Without a critical mass of Horseshoe Crabs and their eggs, migrating birds become too weak to complete their journey and successfully reproduce. Additionally, larvae and juveniles are preyed upon by species such as striped bass, white perch, American eel, flounder, crabs, whelk, and loggerhead turtles. Horseshoe Crabs' molten shells are used as shelter for mud crabs, sand shrimp, and spider crabs. The limulus leech lays eggs in the Horseshoe Crab's gills. Sea sponges, starfish, barnacles, oysters, tube worms, and bivalves attach themselves to the outer shells of adult Horseshoe Crabs.

Impacts on Local Economies: Human activities cause sharp declines in Horseshoe Crab populations, affecting local economies. It is estimated that close to \$40 billion is spent annually in the United States on bird watching and wildlife viewing, with hundreds of millions being spent on the observation of shorebirds. As bird populations drop, so does the income related to bird watching and recreation. Fisheries in the Atlantic States alone contribute over \$1 billion annually to the region's GDP. This does not account for tourism and related industries. Robust and vibrant fisheries depend upon ecosystem diversity.

Why Should Horseshoe Crab Harvests Be Limited?

For decades, Horseshoe Crabs were looked upon as unimportant to our waters. They are slow to mature and therefore are susceptible to harvesting pressures. Horseshoe Crab landings have historically undergone substantial fluctuation. Horseshoe Crabs were once used as fertilizer and livestock feed, which almost led to their populations being wiped out in the 1940s. In the 1970s, the populations recovered only to see resurgence in their use as bait for eel, conch, and whelk fisheries. The females are chopped up and those with eggs, known as gravid females, are preferred for eel bait.

As human understanding of the benefits of the Horseshoe Crab on human health and the ecosystem evolved, so has policy towards these misunderstood creatures. When females arrive at the shoreline for spawning, males await her arrival. As many as six males can fertilize any single female's eggs during the mating season. A female Horseshoe Crab will lay 4,000 eggs in a single evening and will lay approximately 100,000 eggs during the entire spawning season. Therefore, targeting females for bait has severely limited the species' ability to sustain itself and its predators.

Understanding the Horseshoe Crabs key role in the ecosystem and visible reduction in migratory shorebird populations has led many states to limit the harvests. The Horseshoe Crab used to be prevalent up and down the eastern seaboard, however development, pollution, and overharvesting have severely impaired their populations and habitat. Horseshoe Crabs are known to have high mortality rates for larvae and juveniles as evidenced by the many species that rely upon them for food. Adults have a lower mortality rate. They are primarily preyed upon by sharks, gulls, and boat-tailed grackles. While adults have a lower mortality rate, they do not reach sexual maturity until they are approximately ten years old and females generally molt one additional time.

Why is Policy Shifting?

Concern over an increase in Horseshoe Crab harvesting, especially in the Mid-Atlantic states, led to the 1999 enactment of an Interstate Fishery Management Plan for Horseshoe Crabs, which is managed by the Atlantic States Marine Fisheries Commission. This plan created quotas for each east coast state from Maine to Florida which, if exceeded, could result in the Secretary of Commerce closing down the states fishery.

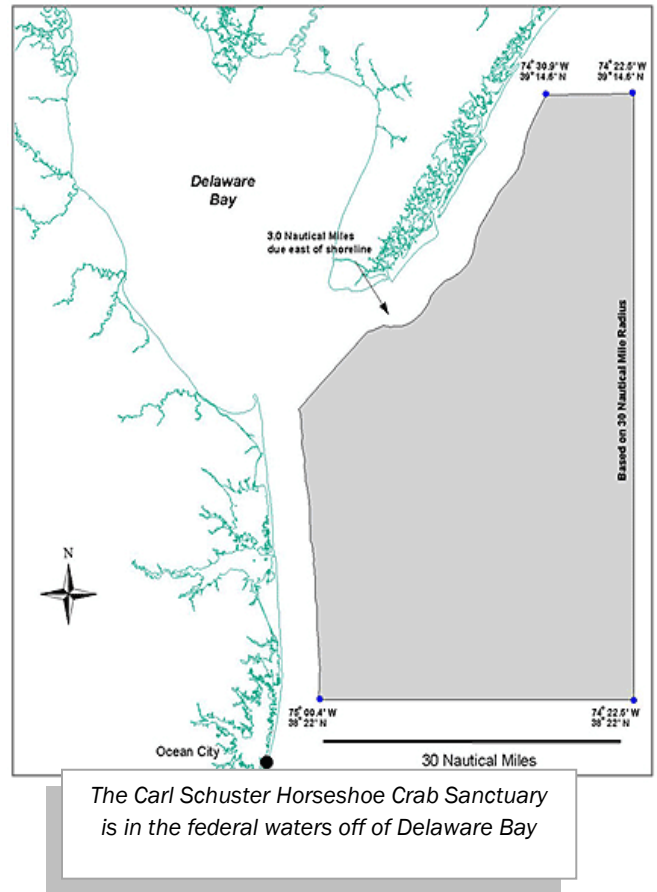


Delaware Bay has been recognized as a significant area for migratory shorebirds and Horseshoe Crabs, and current management policy reflects a priority for preservation in this area. However the 2009 *Atlantic States Marine Fisheries Commission Report on the Status of the Horseshoe Crab Stock* indicates that populations in New York and New England are declining. Most Horseshoe Crabs do not move far beyond the beaches where they were hatched, and usually return to that beach or a nearby beach for annual spawning. This limited range of the Horseshoe Crab population means that it is imperative that the New York and New England regions take stronger precautions to increase populations in their area.

FEDERAL POLICIES:

Federal protections of the Horseshoe Crab are encompassed primarily in the Atlantic States Marine Fisheries Commission and some additional protections provided by National Seashores. Currently, Fire Island National Seashore and Cape Cod National Seashore are the only seashores that prohibit the harvesting and landing of Horseshoe Crabs. These protections provide valuable habitat relief for the horseshoe crabs and migrating shorebirds.

The Atlantic States Marine Fisheries Commission finalized the Fisheries Management Plan for Horseshoe Crabs in 1999. In its first Addendum, it lowered state quotas by 25%. Except for Delaware and New Jersey, there have not been additional restrictions imposed upon other states. Addendum II divided Horseshoe Crab takings by state, and currently states are allowed to enact stricter controls of Horseshoe Crab takings and ASMFC sets the maximum. In its current iteration, Addendum V which has been extended to October 31, 2010, the States of Delaware and New Jersey have harvest moratoria imposed during the months of January – June.



STATE POLICIES:

Current state policies toward Horseshoe Crab management reflect the general guidelines from the ASMFC and the current practice managing Horseshoe Crab populations on a state-by-state basis. Horseshoe Crab tagging programs have shown that most crabs tend to stay in a general geographic area, however they do not observe state borders. For instance, Delaware Bay Horseshoe Crabs have been caught in Virginia, Delaware, Maryland, and New Jersey. Horseshoe Crabs must be protected taking a holistic ecosystem approach, while still allowing states to enact more restrictive policies should they so choose.

As always, states are the incubators of policy efficacy and best practices can be found throughout. Obviously, South Carolina’s prohibition on Horseshoe Crab takings for bait is most restrictive and beneficial for the long-term health of the species, however there are many policies that could be put into place during a short-term moratorium. A moratorium on Horseshoe Crab harvests would achieve the dual purpose of allowing the crabs and dependent species, like the endangered Red Knot, a chance at long-term survival.

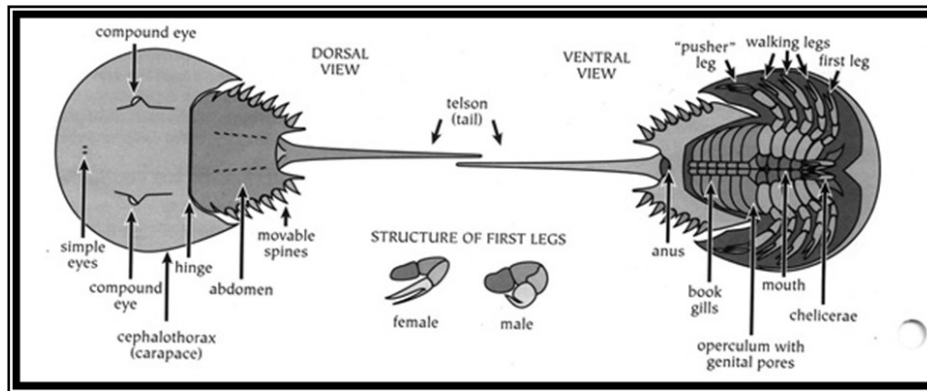
CONNECTICUT

Annual Quota established ASMFC: 48,689.

GENERAL GUIDELINES: From July 8 through May 21 all harvesting and landing is prohibited. During the open period from May 22 through July 7 harvest and landing is closed from 6:00 pm on any Friday through 6:00 pm on the following Sunday. Harvesting is prohibited from Menunketesuck Island in Westbrook; Sandy Point in West Haven; and Milford Point.

PERMITS & QUOTAS: During open season, there is a 500 crab limit per 24-hour period and harvesters are only allowed to hand-harvest.

LICENSES: Connecticut requires that horseshoe crab harvesters possess both a valid commercial license that, and a Horseshoe Crab Hand-Harvest Endorsement Letter. Endorsement letters cannot be obtained unless the harvester possessed a commercial license and reported during at least one open season from 1999-2006. Harvesters cannot have an assistant in the water unless that person also possesses a commercial license and an endorsement letter. Unlicensed and unendorsed assistants can carry crabs for the licensee from the beach to a storage container or vehicle.



DELAWARE

Annual Quota established by ASMFC: 100,000

GENERAL GUIDELINES: Delaware prohibits the taking/landing of females at any time. Daily and monthly reporting is required, regardless of permit issued. Reporting delinquency will result in revocation of permit and may result in not being issued a permit the next year. All state and federal lands owned in fee simple are horseshoe crab sanctuaries from May 1 through June 30. Landowners may register their lands as horseshoe crab sanctuaries for any specified time period. It is always illegal to remove horseshoe crabs from a sanctuary. Bait is limited to one-half a female or one male in one pot per day. Conch pots must be equipped with bait saving devices if horseshoe crabs are used. If another state imposes taxes, fees, or restrictions that essentially result in the non-availability of permits for nonresidents, Delaware will impose those same restrictions upon the residents of that state when they seek a commercial Horseshoe Crab harvesting permit in Delaware. Horseshoe crabs cannot be bought, sold or bartered unless you possess a valid horseshoe crab permit or horseshoe crab dredge permit. Horseshoe crabs cannot be taken from the Exclusive Economic Zone without a valid horseshoe crab dredge permit.

HORSESHOE CRABS CURRENT STATE AND FEDERAL POLICIES AND TEN RECOMMENDATIONS TO PROTECT THIS KEYSTONE SPECIES

DAILY LIMITS: It is illegal to possess more than 300 cubic feet of horseshoe crabs unless in stationary cold storage or a freezer facility. In addition, it is illegal to collect more than 300 cubic feet of horseshoe crabs in any 24 hour period.

PERMITS: Delaware issues scientific permits for scientific, medical or educational purposes, and favors taking only males when possible. Delaware also encourages scientific permitted takings to be returned to the original habitat when possible. Municipalities and individuals cannot remove dead Horseshoe Crabs unless they have a beach clean-up permit.

Delaware requires a permit for Horseshoe Crab harvesting unless it is for personal, noncommercial use. Horseshoe Crab permits can only be issued to a person 16 years or older. If a person is under 16 they can accompany a permittee, and permittees are limited to 3 persons under 16 years accompanying them at any one time. Persons under the age of 16 cannot assist a permittee in the handling, loading, or driving of a vehicle used to transport horseshoe crabs within 300 feet of the shoreline or where Horseshoe Crabs are landed from a vessel.

Horseshoe Crab dredging is limited to 5 permittees annually via lottery. Dredge permits are only awarded to fishermen with valid oyster vessel licenses. Dredging is prohibited in fee simple and tidal waters from January 1 to June 30. Dredging female horseshoe crabs is prohibited at all times. It is illegal to dredge horseshoe crabs in Delaware Bay areas designated as leased shellfish grounds, unless it is one's own grounds. Persons who operate a dredge vessel board or land more than 1500 horseshoe crabs in any 24 hour period, and cannot have any horseshoe crabs on board from January 1 to June 30.

Eel licensees and Horseshoe Crab permittees can collect Horseshoe Crabs on state-owned lands from June 8-July 31 in a restricted area. It is illegal to collect Horseshoe Crabs from private lands from January 1 to June 7. It is legal, with valid permits, to collect male Horseshoe Crabs from private lands Monday-Friday from June 8-July 31.



Eel fishing licensee's are exempt from prohibitions on Horseshoe Crabs possession, as long as the licensee is current in their weekly reporting. Any person who has been issued a commercial eel fishing license may collect Horseshoe Crabs by hand without a Horseshoe Crab commercial collecting permit provided all Horseshoe Crabs taken are for personal, non-commercial use, as bait for the licensee's eel pots fished in this state. If an eel fishing licensee also possesses a commercial Horseshoe Crab permit, they are considered to be a Horseshoe Crab permittee for the purpose of enforcing Horseshoe Crab regulations. Eel fishing licensees cannot collect Horseshoe Crabs between sunset and sunrise. Horseshoe Crabs collected by an eel fishing licensee cannot be commingled with Horseshoe Crabs collected with any Horseshoe Crab permit, and vice versa.

FLORIDA

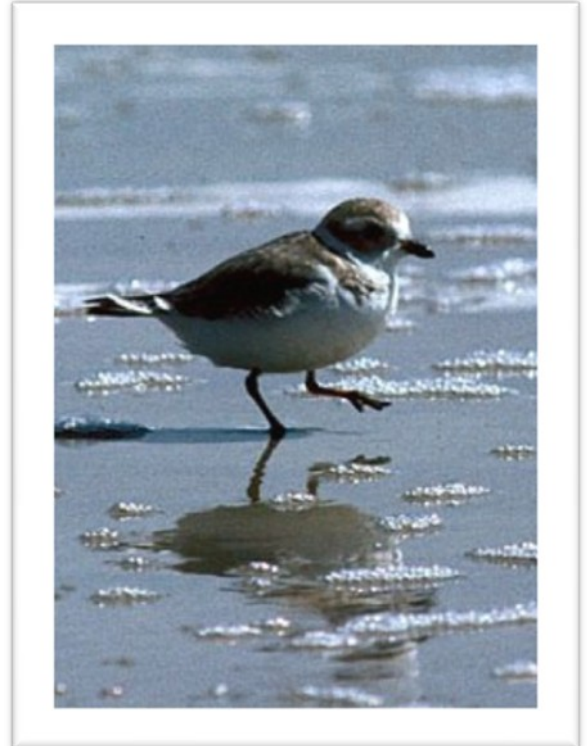
Annual Quota established by ASMFC: 9,455

GENERAL GUIDELINES: Harvest is only allowed by hand and gig.

DAILY LIMITS: There is a daily bag and possession limit of 25 animals. Commercial limits are 100 Horseshoe Crabs in or on the salt waters of the state.

PERMITS: There are two commercial licenses that can harvest Horseshoe Crabs: saltwater products license with a marine life endorsement and commercial eel license.

BIOMEDICAL: Biomedical permits holders are exempt from daily bag limits. Horseshoe Crabs collected for biomedical purposes must be handled so as to minimize injury, maintained alive, and released alive in the area where collected. Biomedical permittees must include a monthly account of number of crabs collected, area of collection, statement of percent mortality up to the point of release, and a certification that collected horseshoe crabs are solely used by the biomedical facility for biomedical purposes.



GEORGIA

Annual Quota established by ASMFC: 29, 312

GENERAL GUIDELINES: Horseshoe Crabs can only be taken from the state's saltwaters that are open for the taking of shrimp, whelk, or blue crab by trawling. The interstate import of Horseshoe Crabs is allowed, providing that a bill of landing accompanies the Horseshoe Crabs as proof that they were not taken or transported in violation of state laws.

DAILY LIMITS: Limits are twenty-five for an individual or seventy-five on a boat, whichever is less.

BIOMEDICAL: If Horseshoe Crabs are taken for biomedical use they must be returned unharmed to state waters of comparable salinity and water quality as soon as is feasible after any blood collection.



MAINE

Annual Quota established by ASMFC: 13,500

GENERAL GUIDELINES: From May 1 to October 30 the harvest and landing of Horseshoe Crabs is prohibited. Maine allows Horseshoe Crabs to be imported from other jurisdictions, as long as the origin is documented.

DAILY LIMITS: Daily limit of 25 Horseshoe Crabs per person per day, but imported Horseshoe Crabs are not subject to this limitation.

PERMITS: Maine requires a permit to harvest.

MARYLAND

Annual Quota established by ASMFC: 170,653

GENERAL GUIDELINES: From December 1 through June 7, harvesting and landing is prohibited. From June 8 to July 12 harvesting and landing is prohibited from The Chesapeake Bay and its tidal tributaries; within 1 mile of the Atlantic Coast or its coastal bays. From July 13 to November 30 a person may catch or land Horseshoe Crabs from the tidal water of the State on Monday through Friday. No catching or landings on Saturday or Sunday.

DAILY LIMITS: Limit is 25 Horseshoe Crabs daily, except from June 8 to July 1, when the daily limit is 100. From July 13-November 30 the daily catch limit is based on the ratio of landings reported by the permittee in 1996 to the total reported landings for 1996 as applied to the annual total allowable landings for the present year.

PERMITS: To catch and land Horseshoe Crabs a permit is required. The permits are issued to a person who is licensed; and reported catching and landing Horseshoe Crabs in Maryland during 1996. The daily catch limits is assigned to the permit. Landing permits can be permanently transferred to the permittee's spouse, daughter, son, stepchild, grandchild, step-grandchild, parent, sister, brother, grandparent, father-in-law, mother-in-law, son-in-law, daughter-in-law, sister-in-law, or brother-in-law. Temporary transfers of not less than 30 days and not more than 90 days can be made to a person who is licensed and is not a permit holder.

BIOMEDICAL: Horseshoe Crabs which are caught and landed for purposes of scientific research must be returned within 48 hours to the waters from which they were taken. A person who purchases them for purposes of scientific research may return the Horseshoe Crabs to the harvester for use or sale as bait; return or sell the Horseshoe Crabs to a bait dealer; or return the horseshoe crabs live to tidal waters.

MASSACHUSETTES

Annual Quota established by ASMFC: 330,377; State: 165,000

GENERAL GUIDELINES: No Horseshoe Crabs can be taken for any purpose at any time on Saturday or Sunday. Exception: From June 9 through December 31, Coastal Access Permit holders using mobile gear may harvest and land up to 400 Horseshoe Crabs per day while trawling in state waters on Sunday, Monday, Tuesday, Wednesday, and Thursday. All permit holders must submit a monthly report. The state can close any area to horseshoe crab harvesting, and adjust the manner and times of taking, legal size limits, numbers and/or quantities. On July 7th of each year the state can prohibit commercial landing and possession of Horseshoe Crabs taken for bait to assess the current proportion of the annual quota already taken. The fishery can be re-opened if the quota has not been reached, and harvest rules can be adjusted in order to extend the season and avoid overages.

DAILY LIMITS: Individuals can take, land, or possess 6 Horseshoe Crabs per day without a regulated fishery permit. Vessels are limited to 400 per day regardless of how many permit holders are aboard the vessel. Horseshoe Crabs taken by a biomedical permit holder are limited to 1,000 during any 24 hour period. Possession limits do not apply to lawfully harvested Horseshoe Crabs held in storage by licensed conch or eel fishermen or dealers. Licensed pot fishermen using them as bait may possess more than six Horseshoe Crabs without a regulated permit, provided their documented source is a wholesale or bait dealer.



PERMITS: Massachusetts phased out new regulated fishery permit endorsements on March 28, 2008. If a current horseshoe crab regulated fishery endorsement is not renewed annually it is forfeited. Harvesters collecting horseshoe crabs exclusively for use by the biomedical industry must obtain a special permit limited to that purpose. The holder of the biomedical special permit is not allowed to obtain a Horseshoe Crab Permit. Horseshoe crabs harvested solely for biomedical or research purposes which are bled and released alive in the area of capture or used for display or research are not counted against the annual quota established by the ASMFC.

BIOMEDICAL: Biomedical harvest permit holders must sell Horseshoe Crabs only to authorized dealers, and return all horseshoe crabs not used for display or research, other than bleeding, alive to the area of capture. Authorized dealers must keep Horseshoe Crabs supplied by biomedical permit holders separate from Horseshoe Crabs supplied by bait permit holders; and ensure those supplied by biomedical permit holders are returned for live-release back into the same area of capture. If a biomedical company or permitted scientific institution chooses to purchase Horseshoe crabs from bait dealers the company or institution must keep records sufficient to show the number and source(s) of said horseshoe crabs. Horseshoe crabs purchased by a biomedical company from bait dealers may be returned to bait dealers to be sold as bait. Horseshoe Crabs imported from other States for biomedical purposes will be counted against the quota of the producing state or returned to the producing state for release, according to established rules and regulations of

NEW HAMPSHIRE

Annual Quota established by ASMFC: 350

New Hampshire limits Horseshoe Crab takings to 10 a day, requires reporting, and a harvest permit.

NEW JERSEY

Annual Quota established by ASMFC: 100,000; State: 0

GENERAL GUIDELINES: In 2008, New Jersey established a prohibition on the possession of Horseshoe Crabs or Horseshoe Crab eggs. The prohibition can be lifted if US Fish and Wildlife determines that populations such as the Red Knot have reached recovery targets. When recovery targets are reached New Jersey will consider a limited harvest season. New Jersey allows Horseshoe Crabs to be used as bait if they are taken from other states and the user possesses suitable documentation indicating from where the horseshoe crab was taken.

BIOMEDICAL: New Jersey allows horseshoe crabs to be taken for biomedical and research purposes, as long as the person possesses a scientific collection permit.

NEW YORK

Annual Quota established by ASMFC: 366,272; State: 170,000

GENERAL GUIDELINES: For commercial permittees monthly reports must be submitted during January, February, March, April, August, September, October, November, and December. During the months of May, June, and July commercial reports must be made weekly. Dredges cannot be used to harvest horseshoe crabs from the Atlantic Ocean except in September and October. During the closed period a vessel with a dredge onboard cannot possess or land horseshoe crabs.



DAILY LIMITS: The state may establish closed areas for commercial hand-harvest of Horseshoe Crabs if the state determines that there is documented evidence the area receives significant use by: (a) spawning Horseshoe Crabs during the spawning season; and (b) the following shorebird species for which Horseshoe Crab eggs are an important food source: dunlin, semipalmated sandpiper, sanderling, ruddy turnstone, greater yellowlegs, American golden-plover, black-bellied plover, buff-breasted sandpiper, short-billed dowitcher, red knot, purple sandpiper, marbled godwit, Hudsonian godwit, and whimbrel; or (c) the area is managed by a local, state, or federal agency or governing body as a Public Recreation Area, and such agency or governing body has requested that the Department restrict Horseshoe crab hand-harvesting.



BIOMEDICAL: Horseshoe Crabs used for bio-medical purposes must be returned to the location of harvest or sold as bait and counted toward the bait harvest.

NORTH CAROLINA

Annual Quota established by ASMFC: 24,036

DAILY LIMITS:

500 horseshoe crabs per vessel per trip.

BIOMEDICAL:

Biomedical takings are exempt from the trip limitation.

RHODE ISLAND

Annual Quota established by ASMFC: 26,053; State: 14,655

GENERAL GUIDELINES: The 48-hour period preceding and the 48-hour following new and full moons during May, June, and July no horseshoe crabs can be harvested for commercial or recreational purposes from the waters or the shoreline. On or within 100 feet seaward of Patience and Prudence Islands in Narragansett Bay no horseshoe crabs can be harvested for commercial or recreational purposes.

DAILY LIMITS: Recreational limits are five per day. Commercial limits cannot exceed annual quota.

PERMITS: To harvest commercially a Multi-Purpose Commercial Marine License and a Horseshoe Crab Harvest Permit must be obtained. To harvest horseshoe crabs recreationally a Horseshoe Crab Harvest Permit must be obtained.

BIOMEDICAL: Horseshoe Crabs employed in the biomedical industry for purposes of extracting bodily fluids shall be returned to the waters from which they came within 72 hours following the completion of the intended biomedical procedure.



SOUTH CAROLINA

Annual Quota established by ASMFC: 0; State: Prohibited.

GENERAL GUIDELINES: South Carolina law prohibits Horseshoe Crab harvest for bait. Horseshoe Crabs collected in South Carolina may be removed from the state. Those taken incidentally during legal fishing operations are not penalized as long as the crabs are returned immediately to the water unharmed. The state may grant permits to institutions and persons engaged in science instruction or curation to possess no more than five Horseshoe Crabs or parts.

BIOMEDICAL: The Horseshoe Crab can be harvested for the medical industry, but the state requires a license to do so. The crabs must be returned to the waters after one-third of their blood is extracted. Horseshoe Crabs from which blood is collected for production of LAL may be held in facilities approved by the state and must be handled so as to minimize injury to the crab. Horseshoe crabs collected in South Carolina must be returned unharmed to state waters of comparable salinity and water quality as soon as possible after bleeding unless subsequent retention is permitted.

VIRGINIA

Annual Quota Established by ASMFC: 152,495; State: 137,168

GENERAL GUIDELINES: Horseshoe Crabs cannot be offloaded between the hours of 10 p.m. and 7 a.m. From May 1 to June 7 it is illegal to harvest Horseshoe Crabs from any state shore or tidal waters within 1,000 feet in any direction of the mean low water line. Harvests for biomedical use are not subject to this limitation. From January 1 to June 7, it is illegal for any person to land any Horseshoe Crab harvested from federal waters. Additional quantities may be transferred to Virginia by other jurisdictions in accordance with the provisions of Addendum I to the Atlantic States Marine Fisheries Commission Fishery Management Plan for Horseshoe Crab, provided that the combined total of the commercial quota and transfer from other jurisdictions cannot exceed 355,000 Horseshoe Crabs. Any person harvesting or landing Horseshoe Crabs in Virginia shall report monthly on forms provided by the ASMFC all harvests of Horseshoe Crabs including, but not limited to, bait fisheries, bycatch, biomedical industry, and scientific and educational research harvests. Reporting requirements consist of numbers and pounds landed by sex, harvest method and harvest location.



LIMITATIONS:

Daily harvest limitations are as follows:

1. Unrestricted Horseshoe Crab endorsement license holders can harvest and land 5,000. When 85% of the commercial quota is taken the daily number is reduced to 2,500.
2. Restricted dredge Horseshoe Crab endorsement license holders can harvest and land 2,000. When 85% of the commercial quota is taken the daily number is reduced to 1,000.
3. Registered commercial fisherman or seafood landing licensee must have horseshoe crab bycatch permit to have any horseshoe crabs aboard their vessels. Horseshoe Crab bycatch

During each calendar year no more than 40% of the commercial Horseshoe Crab quota and any and all transfers of quota from other jurisdictions can be harvested from waters east of the COLREGS Line. Horseshoe Crabs harvested east of the COLREGS Demarcation Line must have a minimum ratio of two males to one female. For the purposes of this regulation, no Horseshoe Crab shall be considered a male unless it possesses at least one modified, hook-like appendage as its first pair of walking legs.

When 20% of the commercial quota has been taken from waters east of the COLREGS Demarcation Line, the limitations on the possession and landing of Horseshoe Crabs are as follows:

1. Unrestricted Horseshoe Crab endorsement license holders cannot possess aboard any vessel, in waters east of the COLREGS Demarcation Line, or land more than 2,500 per day.
2. Restricted Horseshoe Crab endorsement license holders cannot possess aboard any vessel, in waters east of the COLREGS Demarcation Line, or land more than 1,000 per day.
3. Horseshoe Crab bycatch permittees cannot possess aboard any vessel, in waters east of the COLREGS Demarcation Line, or land more than 250 per day.

PERMITS:

Virginia licenses are defined as follows:

Horseshoe Crab hand harvester license for commercial purposes.

Personal Use – No permit required. Limited to 5 Horseshoe Crabs per day.

Unrestricted Horseshoe Crab Endorsement Licenses for boats or vessels who have landed and sold at least 500 in Virginia in at least one year during the period 1998-2000.

Restricted Dredge Horseshoe Crab Endorsement License for any Virginia registered commercial fisherman who uses a crab dredge to harvest Horseshoe Crabs provided his boat or vessel shall have landed at least 10,000 pounds of whelk in any one year from 2002 through 2005.

Seafood Bycatch Permits for any registered commercial fisherman or seafood landing licensee in order to possess any Horseshoe Crabs.

BIOMEDICAL: Persons harvesting Horseshoe Crabs for biomedical use and owners of facilities using any for biomedical purposes shall monitor and report monthly to the commission all harvests or purchases of Horseshoe Crabs and the percentage of mortality up to the point of release including that mortality which occurs during harvest, shipping, handling, and bleeding. Owners of biomedical facilities using Horseshoe Crabs shall participate in the tagging program of the commission to evaluate the post-release mortality of Horseshoe Crabs. Harvests for biomedical purposes require a special permit issued by the Commissioner of Marine Resources, and all crabs taken pursuant to such permit must be returned to the same waters from which they were collected.





CONCLUSION

A focus on the Delaware Bay Region has led to increasing Horseshoe Crab populations, however the pressures on this specie have not gone away, they have simply shifted to other states. New York and New England are experiencing decreasing Horseshoe Crab populations. The Atlantic States Marine Fisheries Commission must take a holistic approach to Horseshoe Crab preservation in order to see a real recovery of the species. Horseshoe Crabs are a keystone species to the entire Atlantic Marine fishery. The fish, shorebirds, and other wildlife that are dependent upon Horseshoe Crabs for their survival do not respect state boundaries and lines. The continued decline of Horseshoe Crab populations, as well as migratory shorebird populations most notably the Red Knot, make it imperative for Atlantic States and the Atlantic States Marine Fisheries Commission to enact more protective policies.

TEN BEST PRACTICES & POLICY RECOMMENDATIONS:

An immediate moratorium on all non-biomedical use of Horseshoe Crabs must be enacted. The moratorium allows the Atlantic States Marine Fisheries Commission and individual states to enact the following baseline policies and best practices;

1. Immediate prohibition on takings and landings of any and all female Horseshoe Crabs as is done in Delaware.
2. Ban the interstate transfer of Horseshoe Crabs
3. Create additional Horseshoe Crab Sanctuaries in Atlantic States regions:
 - a. Long Island Sound (Connecticut & New York)
 - b. Southeastern
 - c. New England
 - d. Allow landowners to register as a horseshoe crab sanctuary as is done in Connecticut.
4. Require bait pots to use bait saving devices and limit bait pots to one-half one male Horseshoe Crab/per pot/per day.
5. Enact a minimum Horseshoe Crab moratorium from January- June in all Atlantic States.
6. Prohibit Horseshoe Crab takings/harvestings from dredges
7. Prohibit Horseshoe Crab taking/harvesting on all National Seashores
8. Expand and/or amend the Atlantic States Marine Fisheries Commission to reflect more diverse stakeholders including, but not limited to: citizens; conservation organizations; and the scientific community.
9. Require that Horseshoe Crabs taken for biomedical purposes are returned to the waters from which they were harvested.
10. Tagging programs in all states



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