




Tisbury Shellfish Department

History and Water Quality

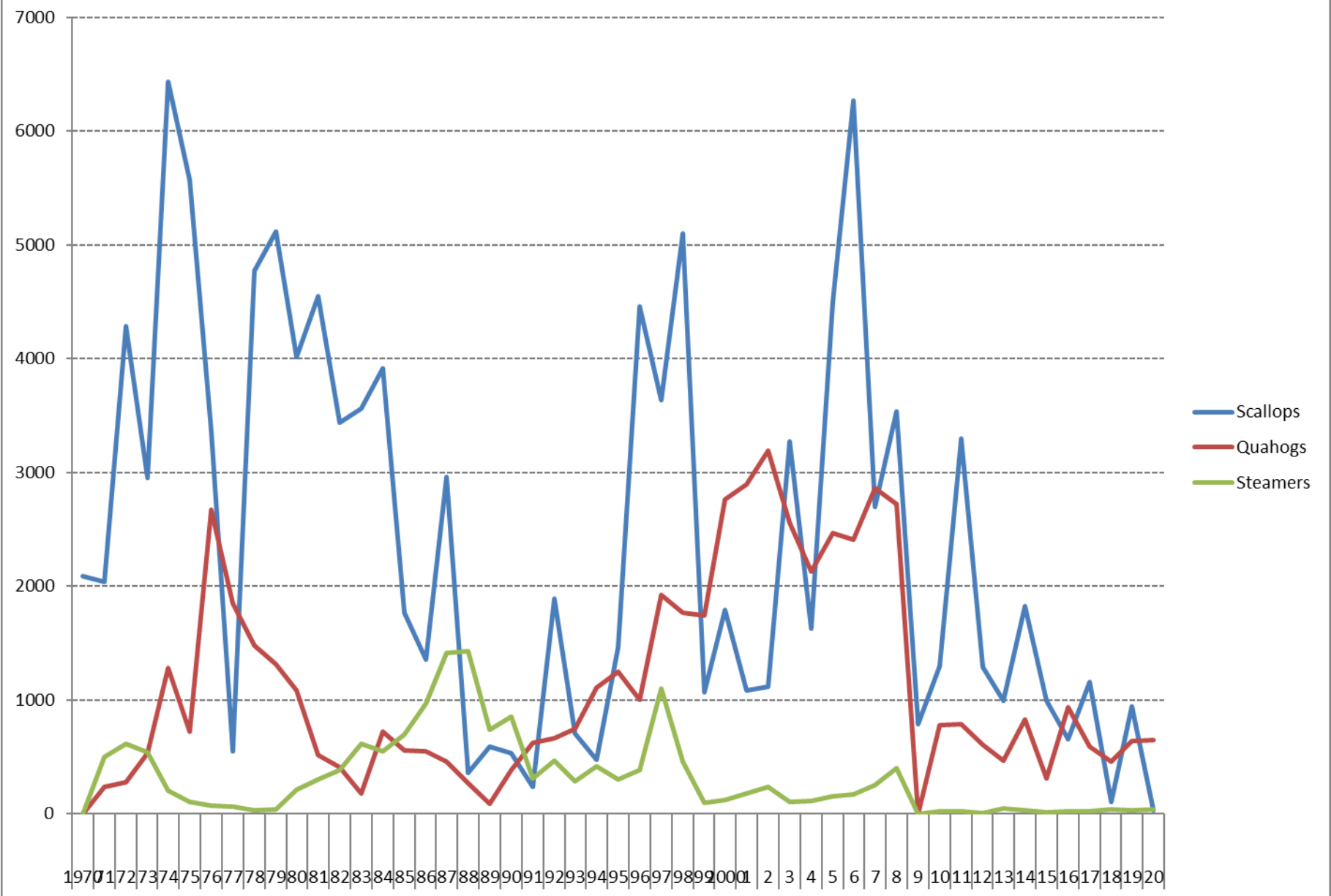


Provides supervisory, technical, administrative and laboring work in ***the protection and expansion of the local shellfish population and in the enforcement of applicable laws and regulations pertinent to shellfish protection and propagation***, and in the maintenance of facilities related to shellfish.

Shellfish over the past 80+ years

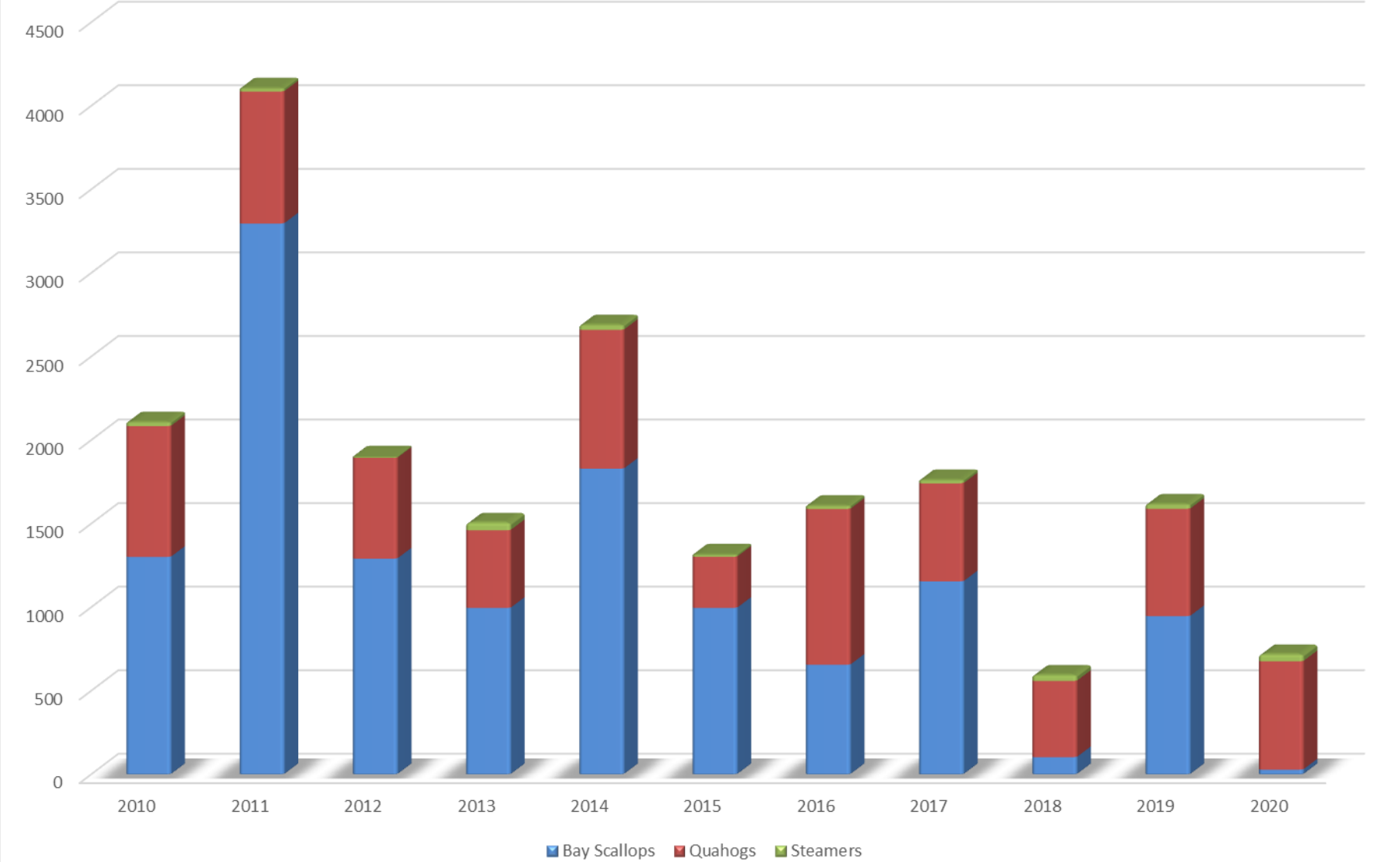
- Since 1930s there have been highs and lows
- Some of this is due to fishing pressure
- Some of the lows can be due to presence of seed - mandatory fishing closures
- Conservation and protection of seed has been a priority for the Town
- Weather hurricanes/ nor'easters
- State mandated closures to areas
- Predation and fluctuation of eelgrass

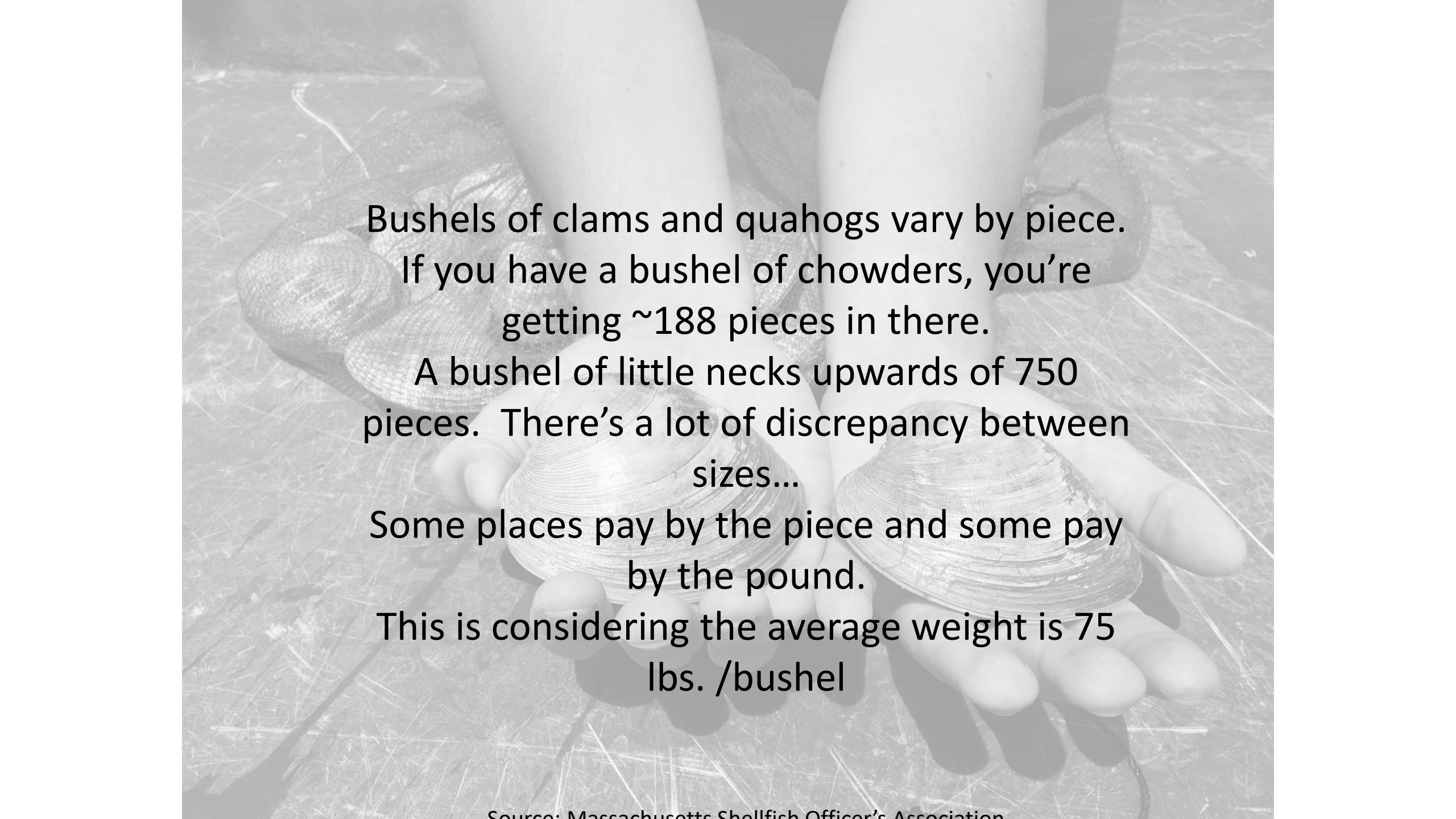
Shellfish Harvested (bushels) in Tisbury from 1970-present



Data was collected from past Town Reports

Shellfish (bushels) Harvested in Tisbury 2010-20



A grayscale photograph of a person's hands holding two large clams. The hands are positioned in the foreground, with the palms facing up. The clams are held one in each hand. In the background, there is a large pile of many smaller clams, likely chowders or little necks, spread out on a surface. The text is overlaid on the image.

Bushels of clams and quahogs vary by piece.
If you have a bushel of chowders, you're
getting ~188 pieces in there.

A bushel of little necks upwards of 750
pieces. There's a lot of discrepancy between
sizes...

Some places pay by the piece and some pay
by the pound.

This is considering the average weight is 75
lbs. /bushel

Scallops are different they pay by the pound, shucked, and these are measured in counts.

An 80 count = 80 scallops /lb. it all varies on the size of the scallop (meat) and the shucker.

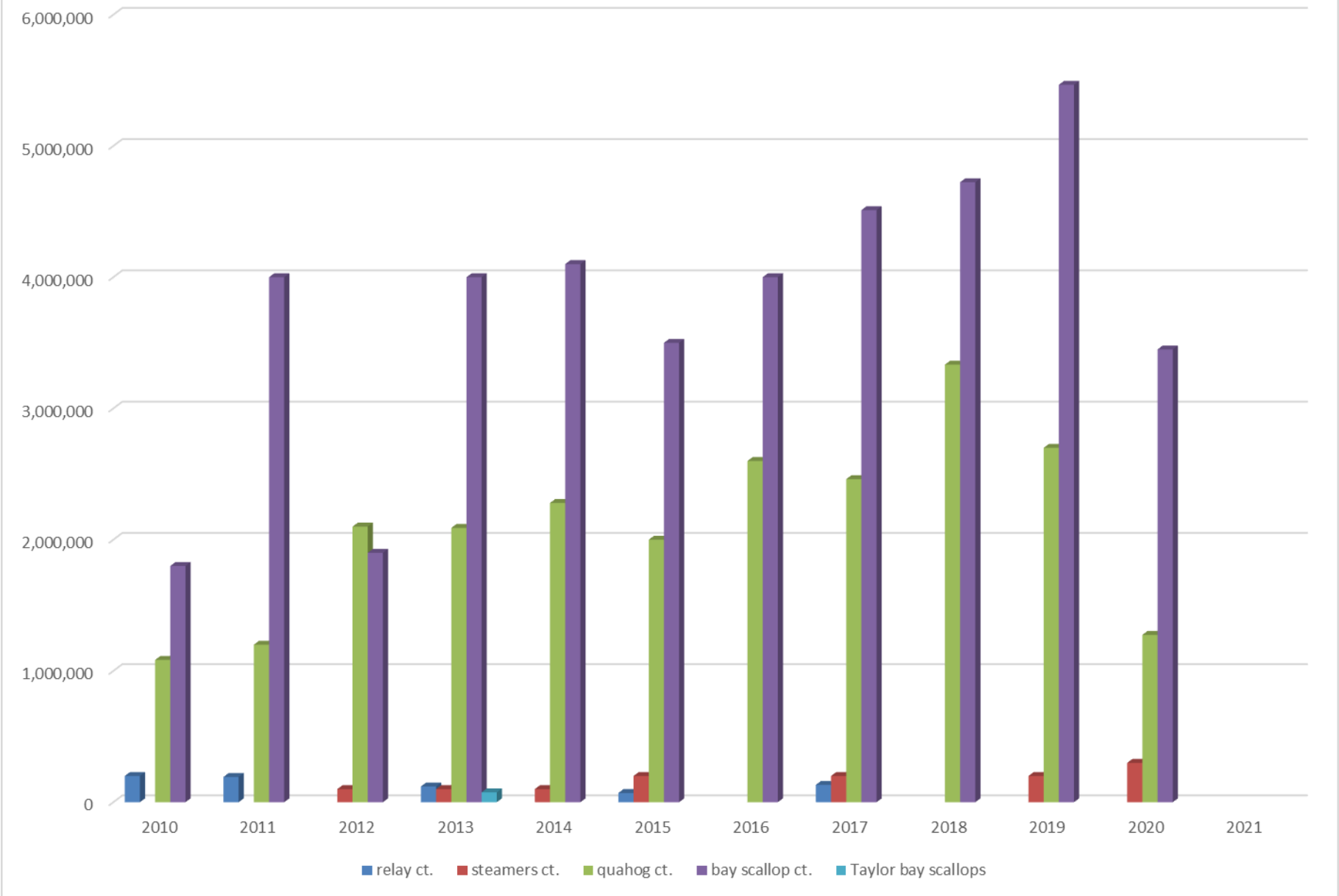
Also, the number of shucked pounds vary.

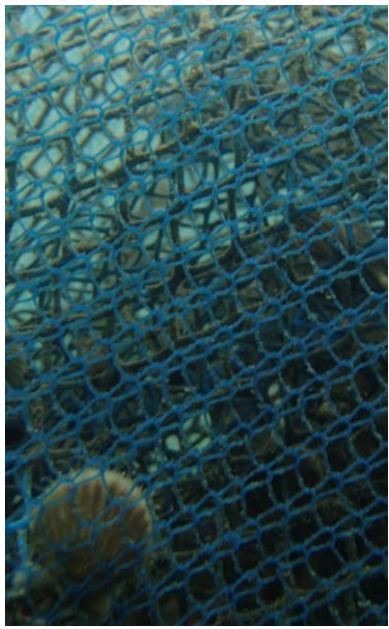


Scallops annually and seasonally

Scallops harvested over the years								
	# bushels	Year total			Scallops in Tisbury		Scallops in Tisbury	
total 2010	1300	1300			Year	# bushels	Season	# bushels
Winter 2011	143.75				Year 2010	1300	10/11	1443.75
Fall 2011	3151.25	3295			Year 2011	3295	11/12	3983.5
Winter 2012	832.25				Year 2012	1289.75	12/13	470.75
Fall 2012	457.5	1289.75			Year 2013	991.25	13/14	1008.25
Winter 2013	13.25				Year 2014	1828	14/15	2013.25
Fall 2013	978	991.25			Year 2015	995	15/16	779.5
Winter 2014	30.25				Year 2016	655	16/17	656
Fall 2014	1797.75	1828			Year 2017	1154	17/18	1184
Winter 2015	215.5				Year 2018	102	18/19	35
Fall 2015	779.5	995			Year 2019	946	19/20	957
Winter 2016	0				Year 2020	27.5	20/21	
Fall 2016	655	655						
Winter 2017	1							
Fall 2017	1153	1154						
Winter 2018	67							
Fall 2018	35	102						
winter 2019	0							
fall 2019	946	946						
Winter 2020	11							
fall 2020	16.5	27.5						

Total Shellfish Received from 2010 -2020

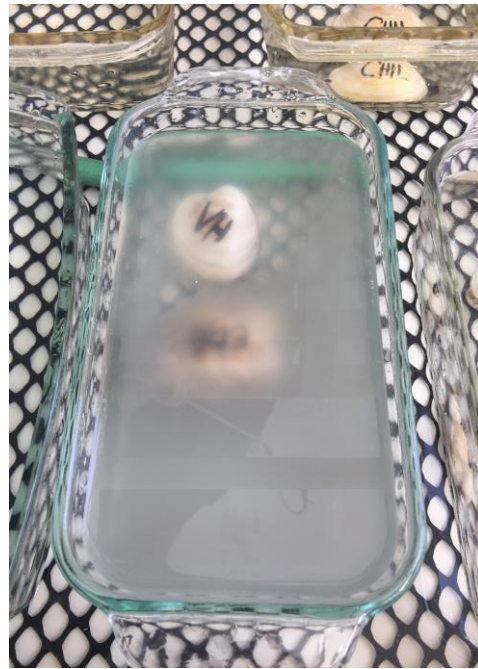




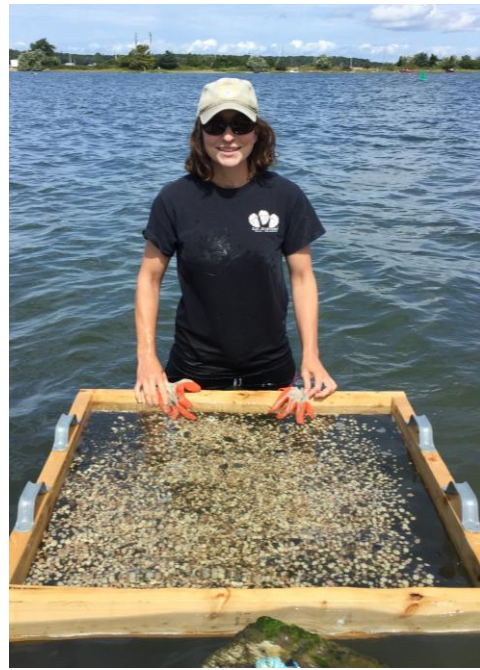
Bay Scallop Propagation Wild Spat Collection



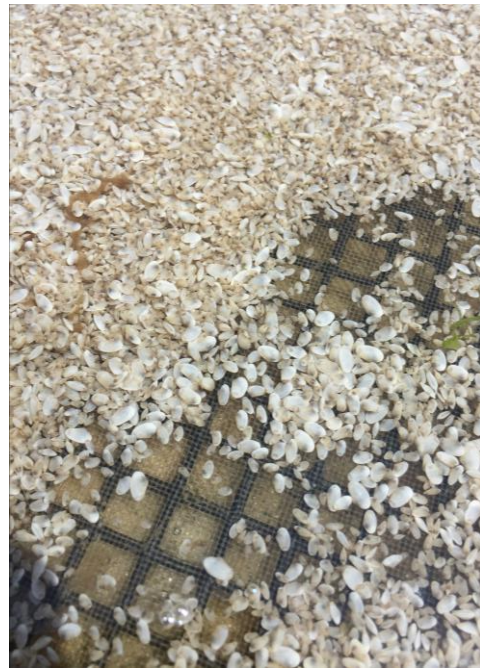
Seed from the Martha's Vineyard
Shellfish Group



Quahogs from MVSG



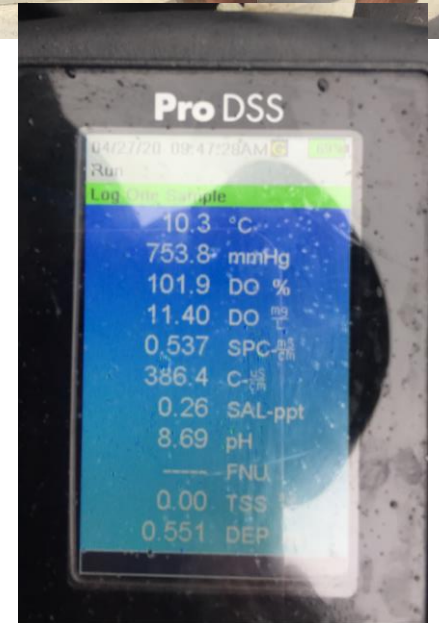
Quahog grown in rafts



Planting steamers



Water Testing



The **Division of Marine Fisheries** collects water samples regularly for the presence of fecal coliform this is based on the sanitary surveys.

This is done following their protocols to ensure that the water is clean enough to be harvesting for the consumption of shellfish.

- An evaluation of pollution sources that may affect an area
- An evaluation of physical characteristics of the coastal area and weather conditions that may affect distribution of pollutants
 - An assessment of water quality

5 classification statuses in Massachusetts

APPROVED: Open to shellfish harvesting for direct human consumption subject to local rules and regulations. Closed only during major coast-wide events (e.g., hurricane, oil spill, red tide event).

CONDITIONALLY APPROVED: Closed some of the time due to rainfall or seasonally poor water quality or other predictable events. When open, it is treated as an Approved area.

RESTRICTED: Contains a limited degree of contamination at all times. When open, shellfish can be relayed to a less contaminated area or harvested for depuration.

CONDITIONALLY RESTRICTED: Contains a limited degree of contamination at all times. Subject to intermittent pollution events and may close due poor water quality from rainfall events or season. When open, only commercial harvesting of soft-shell clams for depuration is allowed.

PROHIBITED: Closed to the harvest of shellfish under all conditions, except the gathering of seeds for municipal propagation programs under a DMF permit.



Massachusetts
Division of Marine Fisheries
SHELLFISH SANITATION AND MANAGEMENT

Growing Area Code: V8

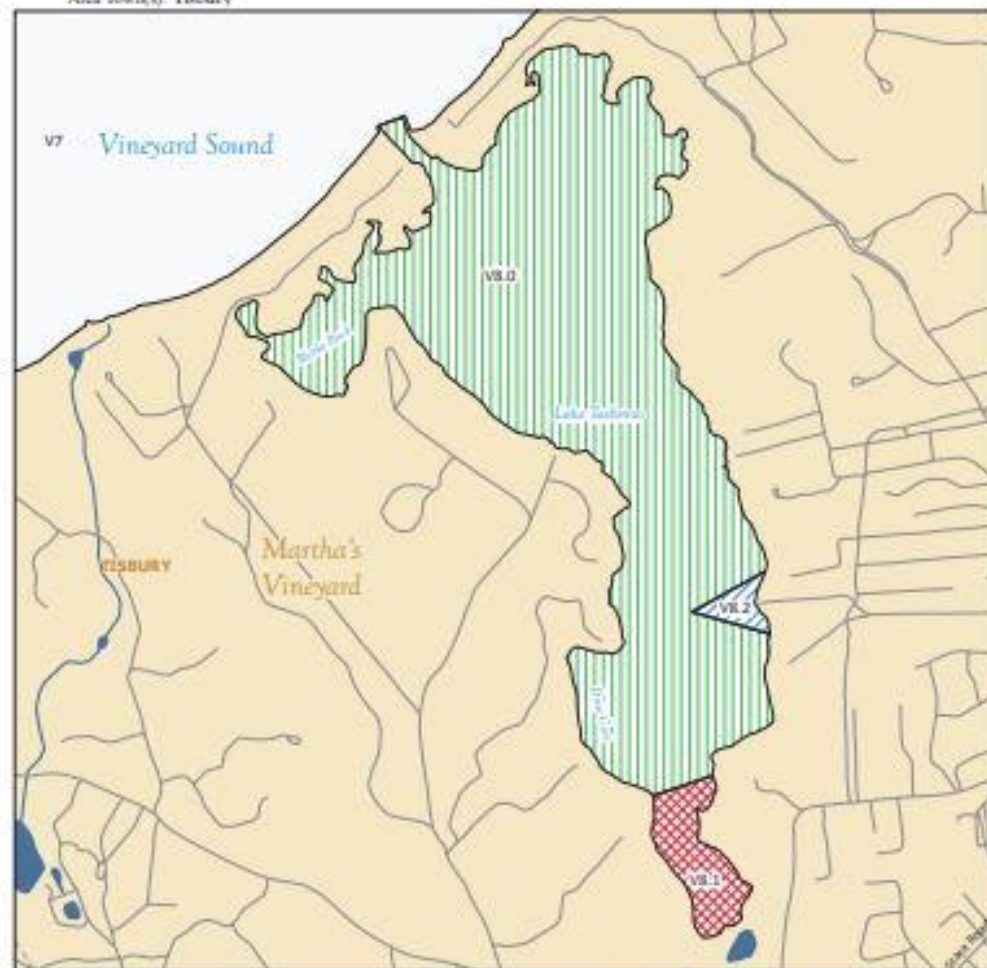
Area Name: LAKE TASHMOO

Area Town(s): Tisbury

Shellfish Area Classification

Approved	Conditionally Restricted
Conditionally Approved	Prohibited
Restricted	

Produced: 12/04/2019



This map depicts the Marine Fisheries' sanitary classification of shellfish growing waters in accordance with the National Shellfish Sanitation Program. It does not indicate the current status, either "open" or "closed" to harvesting due to shellfish management or public health reasons. Always confirm the status with local authorities and/or Marine Fisheries. Information on this map may be out-dated or otherwise incorrect, and should not be relied upon for legal purposes.

Marsh/Wetland Saltmarsh Pond/Lake/Reservoir
Town Boundaries Streams/Ditch/Canal



Massachusetts
Division of Marine Fisheries
SHELLFISH SANITATION AND MANAGEMENT

Growing Area Code: V11

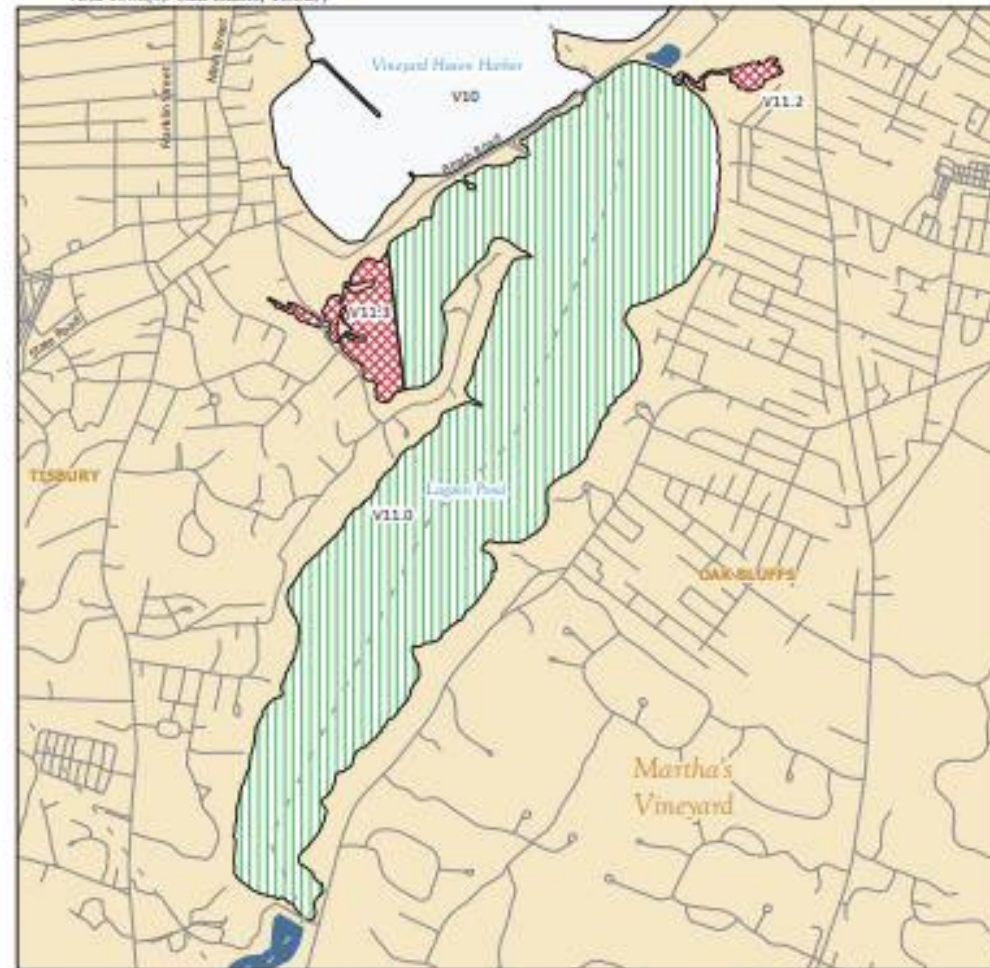
Area Name: LAGOON POND

Area Town(s): Oak Bluffs, Tisbury

Shellfish Area Classification

Approved	Conditionally Restricted
Conditionally Approved	Prohibited
Restricted	

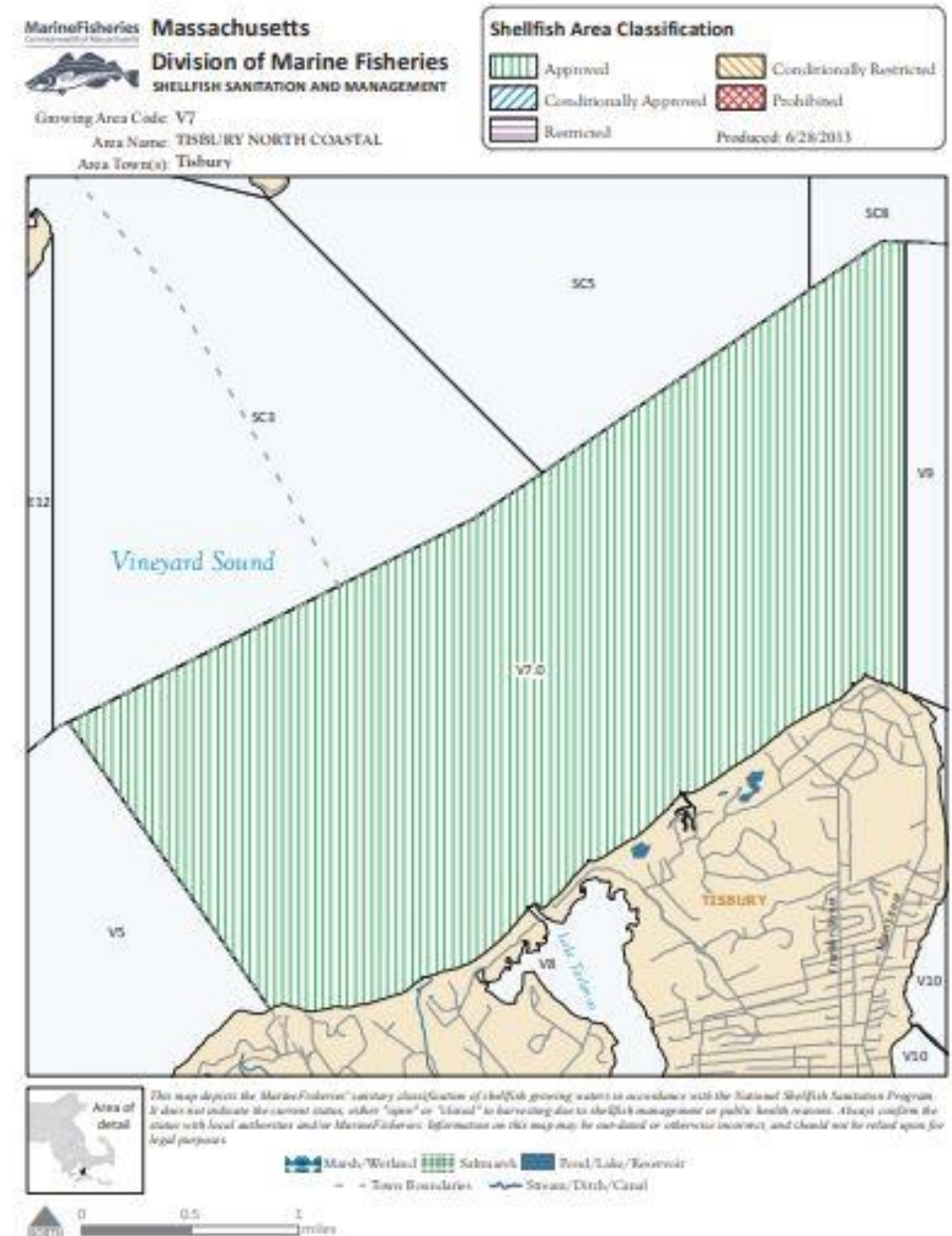
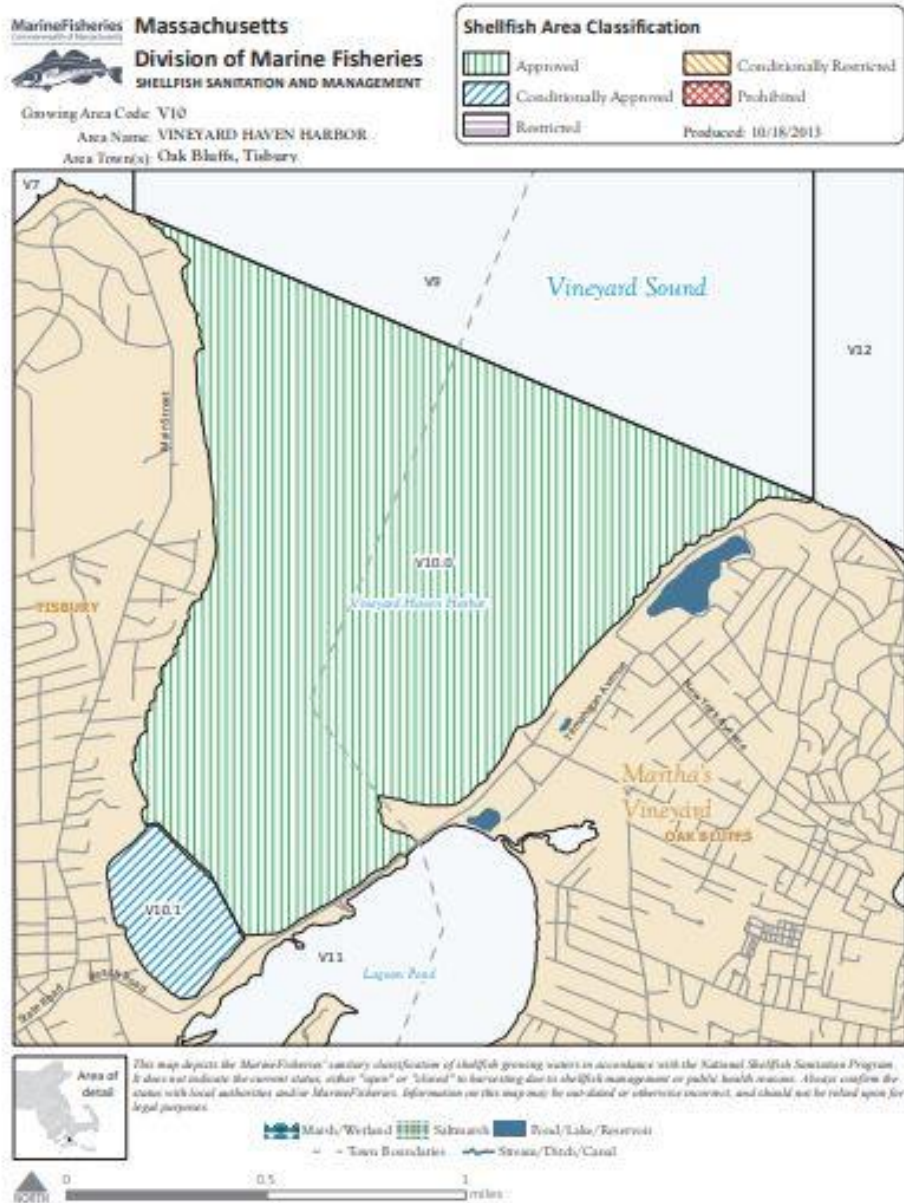
Produced: 06/10/2020



This map depicts the Marine Fisheries' sanitary classification of shellfish growing waters in accordance with the National Shellfish Sanitation Program. It does not indicate the current status, either "open" or "closed" to harvesting due to shellfish management or public health reasons. Always confirm the status with local authorities and/or Marine Fisheries. Information on this map may be out-dated or otherwise incorrect, and should not be relied upon for legal purposes.

Marsh/Wetland Saltmarsh Pond/Lake/Reservoir
Town Boundaries Streams/Ditch/Canal





Designated Shellfish Growing Areas (DSGA) maps Vineyard Haven Harbor and Tisbury North Coastal

Water Quality Monitoring with the Martha's Vineyard Commission

They have been monitoring our ponds and waterways for years,
They are sampled regularly during the summer to look at nitrogen, chlorophyll, dissolved oxygen among other parameters.

They have collected data on these ponds for decades.

Massachusetts Estuaries Project (MEP) for both Lagoon and Lake Tashmoo

In September 2012 the MEP for Lagoon was finalized

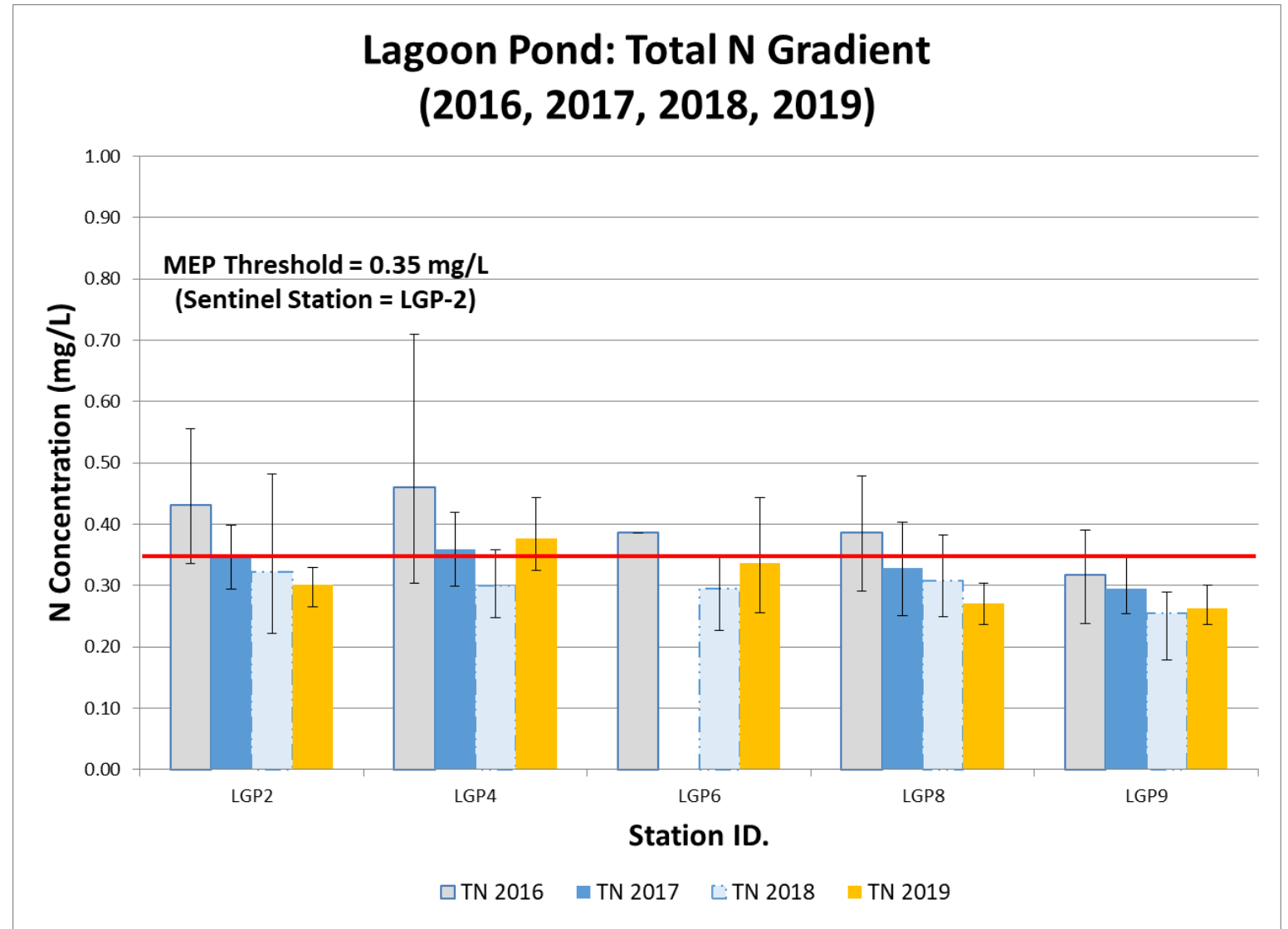
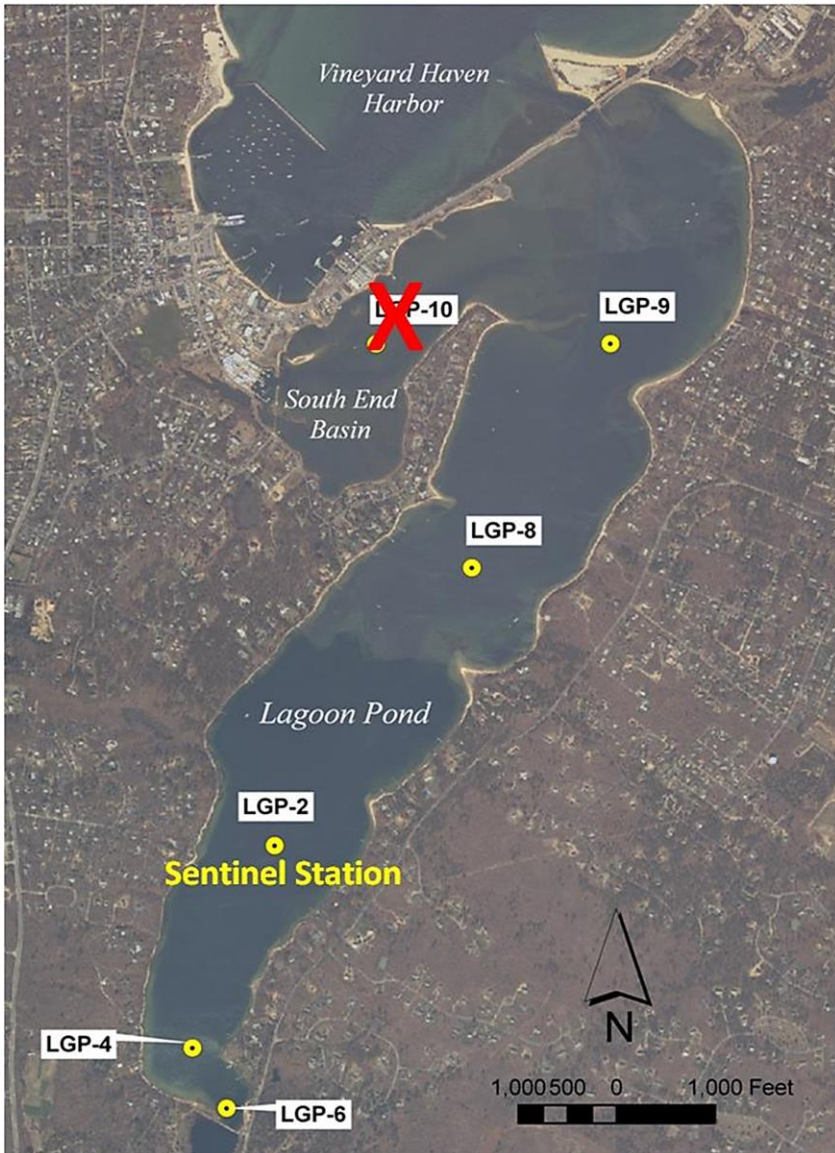
In August 2014 Lake Tashmoo was finalized.

From those reports came a lot of information regarding the health of ponds with regards to the amount of nitrogen is there and how much the pond can take.

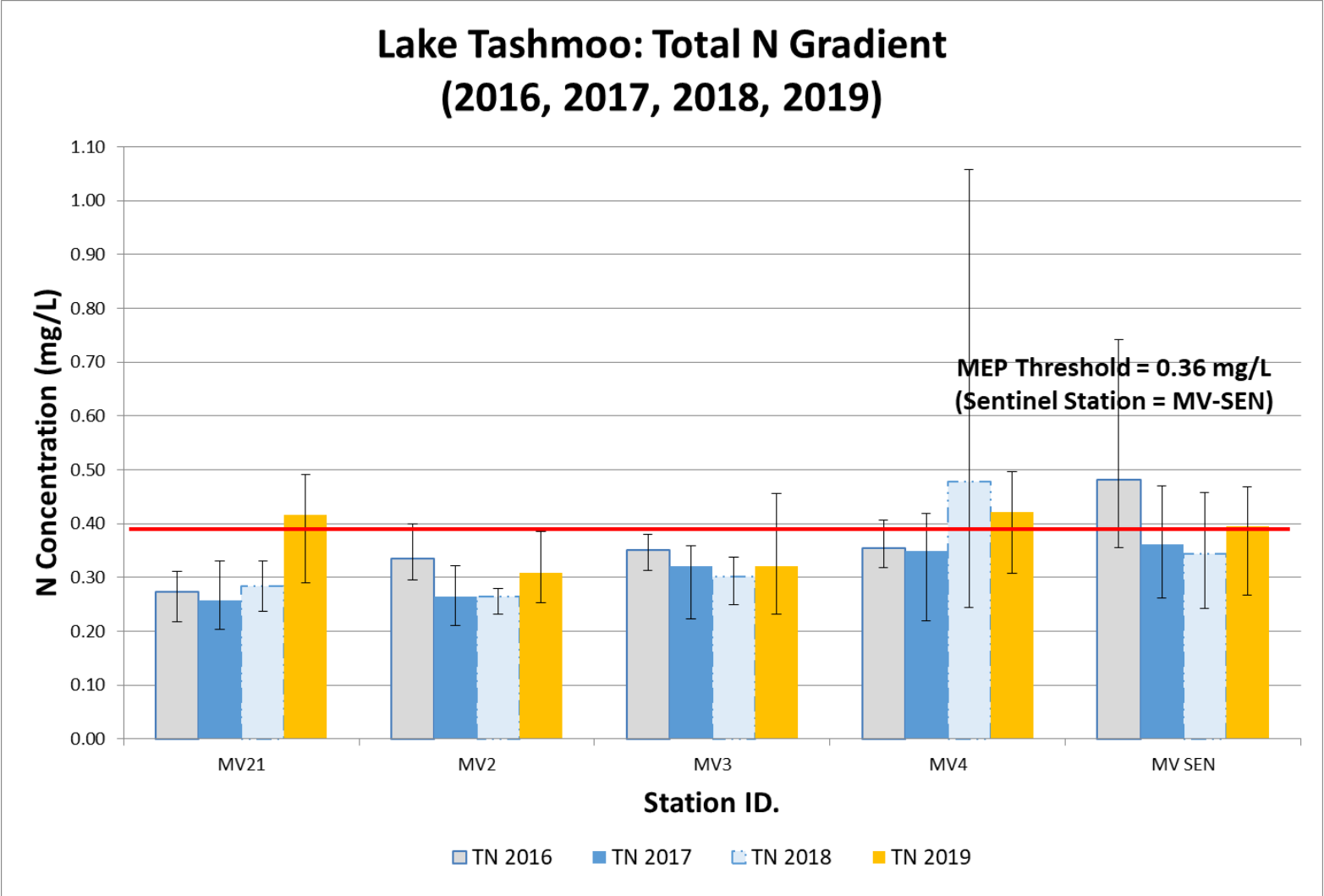
TMDL (Total Mass Daily Load) – the greatest amount of a pollutant a waterbody can accept and still meet the water quality standards for protecting the public health...

The TMDL of nitrogen for Lagoon is 74 kg/day

In Tashmoo the TMDL is 35.5kg/day



Charts provided by the MVC



Charts provided by the MVC

Lagoon Pond

2019

M.V.C. SAMPLING SUMMARY

Nature of the Pond

Lagoon Pond is a saltwater estuary with some groundwater influence. It is located between the towns of Tisbury and Oak Bluffs. The tide flows to Lagoon Pond via a channel connecting it to the Vineyard Haven Harbor. The major watershed area includes concentrated development. This proximity of developed land to the pond results in high nitrogen inputs. Lagoon Pond is used for recreational swimming, boating, and fin fishing and shellfishing. Mud Creek, located off the West Arm, is a poorly flushed area of concern that contributes a high nutrient load to the Lagoon.

Summary for 2019

Water quality in Lagoon Pond main basin is good; however, areas furthest from the channel were observed to have high nitrogen, high pigment and low dissolved oxygen. LGP-6 and LGP-4 have some freshwater influence from an adjacent herring pond at the south west end of the pond and poor flushing to these stations may be to blame for the decreased water clarity seen there. LGP-2 located centrally in the pond, and LGP-11, located in Mud Creek, are particularly impaired. Many restoration project efforts including seeding of shellfish, innovative wastewater systems and experiments with eelgrass restoration are being implemented to reduce nutrients.

2019 Sampling Dates

June 28
July 5
July 9
August 1
August 6
August 21



Please forward questions to:
Sheri Casseau
Water Resource Planner
Martha's Vineyard Commission
33 New York Avenue
Oak Bluffs, MA 02557
(508) 693-3453

Fun Fact
This summer, a large population of several species of harmful and invasive species were removed from the pond!

In order to increase water quality and eel grass habitat in Lagoon Pond, the current total nitrogen levels must be reduced and no additional nitrogen should be added.

Water Quality Index

W.Q.I. #
63
Basis: Upper
79.3 53.3
West Arm
29.7

The water quality index score can range from 0 to 100 (low to high), and is based on parameters that are consistently monitored on this pond. Lagoon Pond has moderate water quality with greater impairment at more restricted sites. Total Nitrogen levels were very high in the last two years, particularly at LGP-2 and LGP-11.

Consistent monitoring will continue to establish trends and identify sources of excess nutrients.

Why Sampling is Important

Field measurements and water samples are collected during the summer months in order to determine water quality of the pond. MVC staff collects water samples as well as a number of indicators of pond health including temperature, oxygen levels, salinity, conductivity, pH, and the time, depth and weather conditions of our sampling. Our sampling protocol is consistent with the Massachusetts Estuaries Project (MEP) which was used to develop the nitrogen threshold. Water samples are tested for several nutrients that in excess can be detrimental to the quality of the water and the systems it supports. Water samples are sent for analysis to the University of Massachusetts at Dartmouth, School of Marine Science and Technology.

Lake Tashmoo

2019

M.V.C. SAMPLING SUMMARY

Nature of the Lake

Lake Tashmoo is a simple estuary with a single tidal inlet located within the Town of Tisbury. This body of water is used for a variety of activities including recreational swimming, fishing, and boating, and commercial fin fishing and shellfishing. Tashmoo is home to a large mooring field. Eelgrass beds, although stressed in some areas, still remain in the lake. A small freshwater pond, Tashmoo Spring Pond, feeds into Lake Tashmoo through a herring run at the Southern end.

Summary for 2019

This year we observed a slight increase in nutrient pollution. Despite a trend of increasing pigment in recent years, we saw a significant decrease in 2019. This suggests that there may have been less frequent harmful algae activity this year. Be that as it may, it is important to note that an algal bloom was observed at the southern end of the lake at sample stations TASH-SEN and MV-4. The highest quality waters are found near the tidal inlet with a slight decline in quality further away from the inlet. Eelgrass is typically associated with the highest quality waters and estuarine habitat and is found in several spots in Tashmoo, but with higher nitrogen levels in 2019 we've seen coverage is declining and showing signs of stress (e.g. significant epiphytic growth).

2019 Sampling Dates

June 25
July 10, 17, 25, 31
August 7, 15, 20, 27
September 3, 10, 24



Please forward questions to:
Sheri Casseau
Water Resource Planner
Martha's Vineyard Commission
33 New York Avenue
Oak Bluffs, MA 02557
(508) 693-3453

Fun Fact
We collected 132 liters of water from Tashmoo this summer!

Water quality near the inlet continues to improve; however, nutrient input should continue to be monitored to ensure nitrogen levels remain below the recommended threshold.

Water Quality Index

W.Q.I. #
77
Basis: Tributaries
80.7 72.4

The water quality index score can range from 0 to 100 (low to high), and is based on parameters that are consistently monitored on Lake Tashmoo. Water quality on Lake Tashmoo is moderate to high quality. While Tashmoo had been trending towards lower nutrient pollution we did see a slight increase in nitrogen in the past year.

It is important to continue to consistently monitor the lake to track further water quality trends and changes.

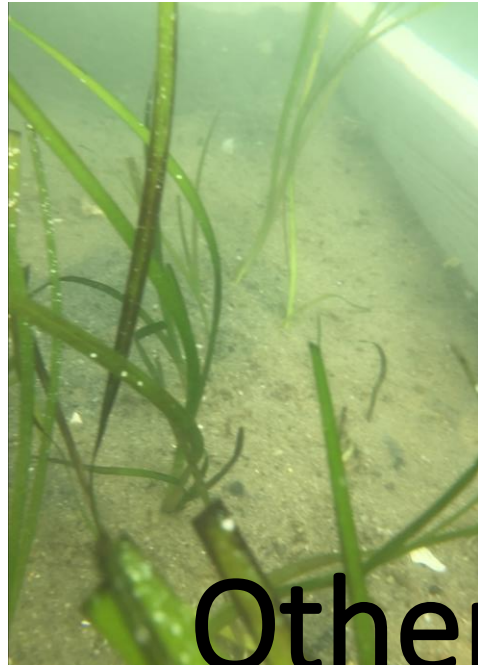
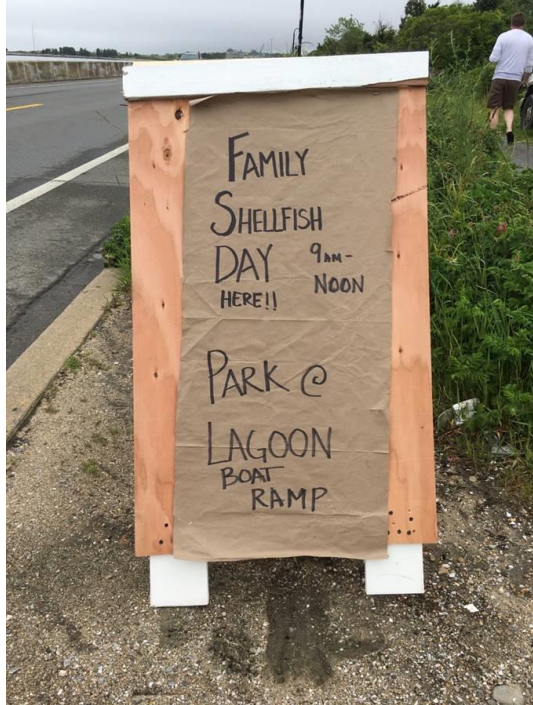
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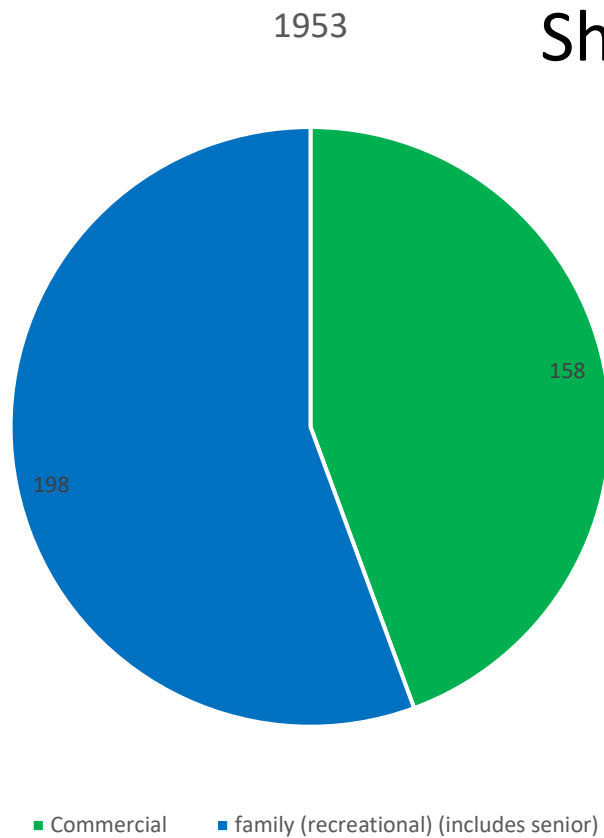
Predator control –
catching crabs



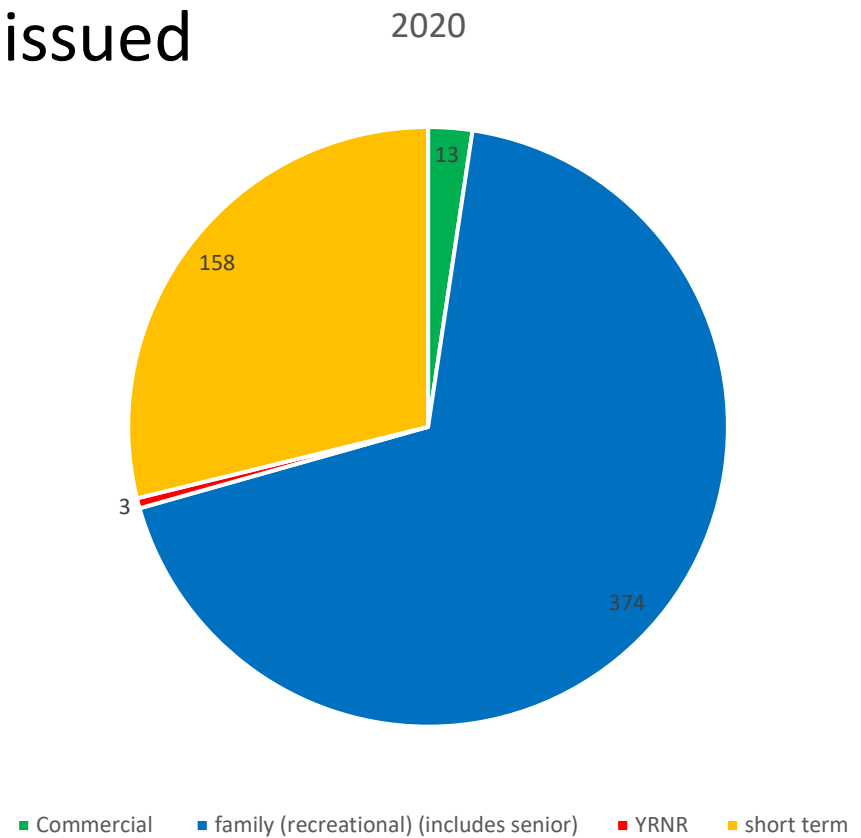


Other projects





Shellfishing permits issued 1953 v 2020



1953- >7% harvested shellfish commercially 9.8% recreationally

2020- 0.325% harvested commercially 9.35% recreationally*

I want to leave you all with something to think about...