

# Determination of the Available 2014 Chesapeake Bay Commercial Striped Bass Quota

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## Annual Chesapeake Bay Quota

Each year, scientists and managers from the three Chesapeake Bay jurisdictions (Maryland, Virginia, and Potomac River) review the best available data on the population of Striped Bass in the Bay in order to determine the total number of fish that can be harvested each year by commercial and recreational fishermen. We refer to this limit or cap as the Annual Chesapeake Bay Quota. For 2014, it was decided that fishermen could safely harvest 8,652,528 pounds of Striped Bass – without detriment to the Bay population. The previous year's quota was 7,589,937 pounds and for the first time in many years the quota has been increased in the Bay. This increase of approximately 14% is attributed to a large number of fish from the 2011 year class (fish that hatch and enter into the population in a given year) which are just now reaching the legal minimum size of 18 inches.

## Bay-wide Allocation of the Annual Quota

After the Annual Quota is decided upon, each jurisdiction receives a proportion of the quota based on a fixed percentage.

Jurisdiction	Percentage	Quota (Lbs) <sup>1</sup>
Maryland	52.4%	4,530,403
Virginia	32.4%	2,804,652
Potomac River	15.2%	1,317,473
<b>Total</b>	<b>100%</b>	<b>8,652,528</b>

<sup>1</sup> – Values will vary slightly due to rounding of the fixed percentage. Actual percentages are carried out to the 7<sup>th</sup> decimal.

## Quota Allocation in Maryland

Maryland's proportion of the Annual Quota is further divided into a commercial and recreational quota.

Sector	Percentage	Quota (Lbs)
Recreational	57.5%	2,604,982
Commercial	42.5%	1,925,421
<b>Total</b>	<b>100%</b>	<b>4,530,403</b>

## Maryland's Commercial Fishery

For 2014, the commercial Striped Bass fishery in the Chesapeake Bay will be managed under an Individual Transferable Quota (ITQ) management system. In this system, shares of the quota are assigned to the individual permit holders. The share that each fisherman receives is the proportion of the total commercial quota in pounds that they will be allocated for the season. Shares were determined based on an equal distribution of 25% of the available shares to all permit holders (baseline) and an unequal distribution of the remaining 75% of the shares to each individual based on catch history (1/2001 – 2/2012). It is the fisherman's total share (baseline + catch history) that determines their poundage allocation for the fishing year. Annual fluctuations in Maryland's commercial quota, either up or down, will result in varying poundage allocations from year to year.

## Initial Allocation of Shares / Declaration of Intent

Prior to the 2014 Declaration of Intent, all permit holders were given an initial share of the Striped Bass quota based on the method mentioned above (baseline + catch history). Each was then given the option to fish their poundage allocation based on their share as an ITQ or enter their poundage allocation into a 'Common Pool' which would be managed in a manner similar to the 2013 management system. The 2013 system is a derby-style fishery with daily harvest limits and season openings and closings. The following table details the results of the Declaration of Intent and is the basis for which we will build upon as we describe the methods used to calculate the *Available 2014 Chesapeake Bay Commercial Striped Bass Quota*.

<b>Declaration Status</b>	<b># Of Permit Holders</b>	<b>% of Permit Holders</b>
ITQ:	837	87.3%
Common Pool:	104	10.9%
Undeclared/Suspended	17	1.8%
<b>Total # of Permit Holders:</b>	<b>958</b>	<b>100%</b>

*Table Summary: The majority of permit holders (87.3%) selected the ITQ over the Common Pool fishery (10.9%). In addition, there were 17 permit holders, representing 1.8% of the fishermen who failed to declare their intent or are suspended for the 2014 fishery. In total, there are currently 958 Striped Bass permit holders in the Chesapeake Bay.*

## Allocating the Quota to the ITQ and Common Pool Fisheries

Since each fisherman has been given a share of the commercial quota, their declaration into either the ITQ or Common Pool fishery dictates the total shares (and associated poundage allocation) that each fishery has. This is because they simply just carried their share with them into the fishery they selected.

For instance:

Joe has a 5% share, Tom has 3%, Jack has 2% and Jane has 4%. Joe and Jane declare into the ITQ and Tom and Jack declare into the Common Pool. The result is that the ITQ now has 9% of the shares (Joe + Jane) and the Common Pool has 5% (Tom + Jack).

The following table represents the total shares that were determined to be ITQ, Common Pool, and Undeclared/Suspended after the results of the Declaration of Intent were finalized and the methods described above were applied.

<b>Declaration Status</b>	<b># Of Permit Holders</b>	<b>% Contributing Shares</b>
ITQ:	837	96.68%
Common Pool:	104	3.74%
Undeclared/Suspended	17	1.13%
<b>Total # of Permit Holders:</b>	<b>958</b>	<b>101.55% (Over-allocation)</b>

*Table Summary: Adding all of the shares associated with permit holders who selected the ITQ results in the ITQ fishery assuming 96.68% of the commercial Striped Bass fishery. The Common Pool and Undeclared/Suspended permit holders account for 3.74% and 1.13%, respectively.*

**IMPORTANT NOTE:** *It is very important to note that when you add up all of the contributing share amounts in the table you end up with more than 100%. This is called an over-allocation of the quota and must be considered when determining the amount of quota that can be distributed to permit holders. Due to the over-allocation, an adjustment to the quota must be made to keep from giving out more quota than the State has for the fishery. This is explained further below.*

### **What is an over-allocation of quota? How did this happen?**

An over-allocation of quota means simply that DNR allocated more shares to the permit holders than we had available to hand out. This occurred as a result of share adjustments that transpired after the initial allocation of shares was released this past summer. Here is a step by step account of what happened:

- In July 2013, a letter was sent to permit holders announcing each individual's share in the fishery. At this time, 100% of the shares were handed out.
- After this announcement it came to our attention that we overlooked approximately 20 individuals who were eligible to receive a share, however, they had not declared their intent for the 2013 fishery. These individuals were left out of the initial allocation of shares.
- In addition, there were a couple commitments made to Pound Net and Atlantic fishermen who asked if they can turn in their current permits (PN / Atl.) with individual quota in order to obtain shares based on their history in the Chesapeake Bay gill net and hook & line fisheries. We sent out a letter asking if there was anyone interested in doing this and we did receive some response, however, the initial allocation were distributed prior to making the required adjustments for these permit holders.
- After all of the adjustments were made, we re-ran the allocation calculation only for the permit holders listed in the above scenarios. All of the other initial share amounts that we distributed were frozen. We did this so that we wouldn't have to reduce all of the other share amounts for all other permit holders and re-send a new updated initial allocation letter to everyone.
- The total shares that went to the 'new' shareholders totaled 1.55%. Adding this to the initial 100% that was distributed explains why we have 101.55% shares allocated for 2014.

### **Adjusting the Commercial Quota for Over-Allocation / Undeclared & Suspended Permit Holders**

The commercial Striped Bass quota for 2014 is 1,925,421 lbs. (See Quota Allocation in Maryland). Before we begin discussing the adjustments to the quota for over-allocation and undeclared/suspended permit holders, we want to be perfectly clear that even though we will be using an *adjusted quota* when allocating pounds of Striped Bass to permit holders, in the end the entire 1,925,421 pounds will be available for harvest. Nothing is being held back as in previous years due to management uncertainty.

It would be very simple for the Department to announce the commercial quota each year and then send permit holders their poundage allocations based on the shares they hold. This is not a transparent way to account for the quota, therefore, we have decided to provide an explanation of the process we go through to determine the Available Quota (which differs from the fixed quota) so that permit holders can calculate their own poundage allocations based on their share.

### Step 1: Understanding Over-Allocation

The following example simplifies the numbers and amount of permit holders to provide an example of what adjustments need to be made to the quota if there is an over allocation.

<b>Scenario 1: Fixed Quota is equal to the Available Quota</b>		
<b>Fixed Quota (FQ) = 1000 lbs</b>		
<b>Available Quota (AQ) = 1000 lbs</b>		
Permit Holder	Share	Allocated Quota (AQ x Share)
Joe	20%	200 lbs
Matt	25%	250 lbs
Tom	25%	250 lbs
Sue	30%	300 lbs
Jane	10%	100 lbs
<b>Total</b>	<b>110%</b>	<b>1100 lbs (Over Quota)</b>

In Scenario 1 the fixed quota which represents the 1,925,421 commercial quota in 2014 is the same amount of quota that the Department makes available to distribute to shareholders. As you can see from the example, we have over-allocated by an additional 10% (110% total). If we allocate the entire fixed quota as available quota we run the risk of over-harvesting the quota. In the example above, there is the potential for the permit holders to harvest 1100 pounds, which is 100 pounds over quota. The following example represents what would happen if we allocated the 2014 commercial quota in this way. We would have the potential of overharvesting the Striped Bass quota by approximately 30,000 lbs.

$$(2014 \text{ Quota}) \times (\text{Total Contributing Shares}) = \text{Harvest Potential}$$

$$1,925,421 \text{ lbs} \times 101.55\% = \mathbf{1,955,265 \text{ Lbs}} \text{ (Over by } \sim 30,000 \text{ lbs)}$$

### Step 2: Adjusting for Over-Allocation

Managers must determine what quota amount they can allocate to permit holders (available quota) so that in the end the entire fixed quota can be harvested. Getting back to the scenario above - The question is this – How many pounds multiplied by 110% equals 1000 lbs. This can be represented by the equation:

$$X = 1000 \text{ lbs} / 110\%$$

Where X = 909 lbs. (Available Quota)

Let's look to see what this adjustment does if we plug in the new Available Quota into the scenario above.

## Scenario 2: Fixed Quota is adjusted for Over-Allocation

**Fixed Quota (FQ) = 1000 lbs**  
**(Adjusted) Available Quota (AQ) = 909 lbs**

Permit Holder	Share	Allocated Quota (AQ x Share)
Joe	20%	182 lbs
Matt	25%	227 lbs
Tom	25%	227 lbs
Sue	30%	273 lbs
Jane	10%	91 lbs
<b>Total</b>	<b>110%</b>	<b>1000 lbs (equals FQ)</b>

As you can see, by adjusting for the initial over-allocation of the fishery the shares for each permit holder do not change, however, the total quota allocated equals the fixed quota. Getting back to the Striped Bass fishery, you can see the result of adjusting for the over-allocation by determining an available quota.

$$X = 1,925,421 \text{ lbs} / 101.55\%$$

Where X = **1,896,032 lbs. (Available Quota)**

Plugging this available quota into the formula:

**(Available Quota) x (Total Contributing Shares) = Harvest Potential**  
**1,896,032 lbs x 101.55% = 1,925,421 Lbs (2014 Quota)**

### Step 3: Adjusting the Over-Allocation for Undeclared & Suspended Permit Holders

We have mentioned a number of times that we have over-allocated the commercial Striped Bass fishery in 2014 by 1.55% (Total shares allocated = 101.55%). Now that we have explained how we handle an over-allocation of the quota, the next step is to adjust the initial over-allocation with the undeclared quota and suspended permit holders. All of the pounds associated with undeclared and suspended permit holders are unavailable to them in 2014, therefore, DNR has made those additional pounds available to the eligible and declared fishermen – regardless of fishery status (ITQ or Common Pool). Basically, these EXTRA pounds (and contributing shares) that are unaccounted for can be used to balance the initial over-allocation so that more quota can be made available to the permit holders. Subtracting the contributing shares of the undeclared/suspended permit holders from the initial over-allocation amount results in a new *adjusted over-allocation*.

Initial Over-Allocation	101.55%
Undeclared/Suspended	-1.13%
<b>Total</b>	<b>100.42% (Adjusted Over-allocation)</b>

**Step 4: Repeat Step 2 with New Adjusted Over-Allocation**

$$X = 1,925,421 \text{ lbs} / 100.42\%$$

Where X = **1,917,368 lbs. (Available Quota)**

Plugging this available quota into the formula:

$$(\text{Available Quota}) \times (\text{Total Contributing Shares}) = \text{Harvest Potential}$$

$$1,917,368 \text{ lbs} \times 100.42\% = \mathbf{1,925,421 \text{ Lbs (2014 Quota)}}$$

**Allocating the Available Quota for 2014**

After going through the steps above, the Department has determined that there are 1,917,368 lbs of quota available to allocate to declared permit holders. In doing so, we ensure that the total 2014 Commercial Striped Bass Quota can be harvested throughout the year.

**Allocating the Available Quota to the Common Pool**

The last step for the Department is to determine how much of the Available Quota should be allocated to the Common Pool. Individuals who declared for the Common Pool contributed 3.74% shares to the fishery, therefore, multiplying the available quota by the value of the contributing shares results in a Common Pool quota of 71,710 lbs. Rounding of pooled individual allocations adds an additional 10 pounds to the quota, resulting in a Common Pool quota of 71,720 lbs. The Common Pool quota will be allocated to each gear and month based on historical allocation percentages. The following table represents the monthly quota scenario for each fishery.

<b>Gill Net</b>				<b>Hook and Line</b>					
% Quota:	60%			40%					
Total Quota:	43,032 lbs			28,688 lbs					
Month	Jan	Feb	Dec	June	July	Aug	Sept	Oct	Nov
Month %	37%	47%	16%	19%	19%	19%	19%	14%	10%
Pounds	15,922	20,225	6,885	5,451	5,451	5,451	5,451	4,016	2,869

**DNR Contacts**

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