

# **Striped Bass: Commercial Fishing**

By: Katie Ginn and Cecily Russo, Lincoln School, Providence, RI; Edited by Alexandra Ellsworth, Lincoln School and Steve Zottoli, Marine Biological Laboratory

---

## **Introduction**

Commercial fishing can be described as the act of catching fish for profit, and it provides a large amount of food for many countries around the globe. Recreational fishing, on the other hand, is when one fishes mainly for the fun of it, for consumption and for competitions. It is a common misconception that commercial fishing is the main cause of the rapid decline in striped bass populations. Truly, it is the combination of both recreational and commercial fishing if it goes unrestricted. In this lesson plan, we will dive deeper into the regulations surrounding commercial fishing, and how they work to protect striped bass while still allowing fishers to catch and keep enough to make a profit.

## **Purpose**

1. Demonstrate to students how regulations of commercial fishing protect striped bass while also affecting the profitability of commercial fishing.
2. Show students how the regulations have affected the industry (struggles within the industry to meet requirements) and their effects on the environment (positive effects on populations).
3. Simulate the life and career of a commercial fisher through our card game.

## **Student Objectives**

- To gain background knowledge of the striped bass through pre- and post-activity questions and the powerpoint presentation.
- To compare the differences between recreational fishing and commercial fishing and to highlight why both have impacted the striped bass population in the past. Students will also learn how regulations help prevent population decline.
- To experience firsthand the life of a commercial fisher with today's regulations, difficulties, and economy by completing the board game.

## **Background Information**

1. Commercial fishing vs. recreational fishing
  - a. Commercial fishing can be described as the act of catching fish for profit, and it provides a large amount of food for many countries around the globe. Recreational fishing, on the other hand, is when one fishes mainly for the fun of it, for consumption and for competitions. It is a common misconception that commercial fishing is the main cause of the rapid decline in striped bass populations.

2. 2018 Massachusetts Regulations (The Atlantic Coast Marine Fisheries Commission recommend regulations for striped bass every year)
  - a. Commercial
    - i. Minimum for length fish: 34" (nose to end of caudal fin)
    - ii. Daily maximum catch: 15 fish per day
    - iii. Season: 5/20 - 8/4, 8/5 - 12/31, Can fish two days a week (Monday & Thursday); season ends when a quota by weight is met. The season can be extended and the number of permitted days can be increased if the quota is not met.
  - b. Recreational
    - i. Minimum length fish: 28"
    - ii. Season: 1/1-12/31
    - iii. Daily maximum catch: 1 fish per person per day.
3. Endangerment and Conservation
  - a. Striped Bass populations declined in the 1970s and 1980s with the commercial catch dropping from 14.7 million pounds in 1973 to 1.7 million pounds in 1983. This decline resulted from both overfishing and habitat decline (e.g., water/air pollution, global warming, runoff, etc.)
  - b. To conserve the population of striped bass, laws and regulations surrounding commercial and recreational fishing were put in place by the Atlantic States Marine Fisheries Commission. These regulations which are reviewed yearly are responsible for the recovery of the striped bass fishery.
4. Habitat and Migration
  - a. Striped bass are found on the North American Atlantic coast, from St. Lawrence River in Canada to St. Johns River in Florida, but they are most prevalent from Maine to North Carolina. They are also found in the Gulf Coast. Striped bass have been introduced to the West Coast and in many lake and river systems.
  - b. The striped bass undergoes two migrations: a **spawning** migration and a **coastal** migration. In the spawning migration, they move to fresh water to reproduce. The major spawning areas include the Chesapeake Bay, Delaware Bay, and Hudson River. After they spawn, they move to the salt water and then begin a northerly coastal migration. Some settle in Rhode Island, Massachusetts, and Connecticut waters while others continue north to Maine, New Hampshire and the Maritime Provinces for the summer months. In the fall, they migrate back to the southern part of their habitat and end up congregating near the Carolinas.
5. Prey/ Predators
  - a. The diet of striped bass varies based on their developmental stage. Adults mainly feed on vertebrate species like fish, and invertebrate species like worms, crabs, mussels, and squid.

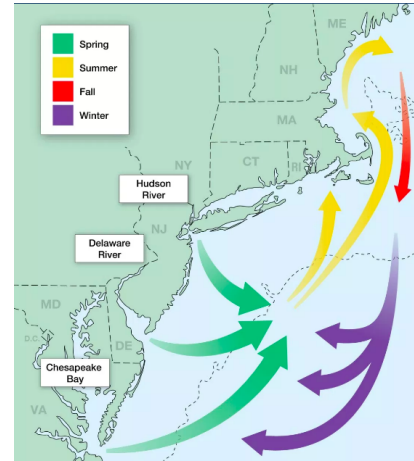
- b. Some predators of juvenile striped bass include Atlantic cod, Atlantic tomcod, bluefish and some predatory birds (osprey), while predators of adult striped bass include humans, seals, sharks.

### Materials

- [Slideshow](#)
- Board game
  - Game pieces
  - [Cards—make multiple copies of the cards](#)
  - [Board](#) with a circular week
  - Dice

### Pre-Activity Questions:

1. Why were striped bass endangered?
2. Where do striped bass migrate in the spring and summer? Where do they migrate in the winter? Why?
3. How many bass can you keep per day commercially? How many recreationally?
4. What is the minimum length of striped bass that a fisher can keep while fishing commercially? How about recreationally?



### Procedure or Activity

#### BOARD GAME!

- Players will independently choose if they would like to play as a commercial fisher or a recreational fisher. Keep in mind that the two groups should be fairly even in number in order to compare each type of fishing.
- Each player picks a game piece to represent them on the board.
- Place cards (make multiple copies of each card) in the center of the board, face down. All of the cards are specific to commercial fishing but recreational fishers will need to apply rules specific to them.
- All players will begin on Sunday, at the top of the board.
- Decide who will go first, and then rotate around the circle with every turn.
- When it is your turn, you will roll the die and move clockwise the number that the die says.
  - Recreational Fishers:
    - Every day you will be able to select a card, but you can only keep one fish per person per day, and abide by the rules on each individual card as well.
  - Commercial Fishers:
    - You will only be able to select a card if you land on a **Monday** or a **Thursday** since those are the only two days that you are allowed to fish. You can only keep 15 fish per person per day. Abide by rules on each individual card as well.
- The game continues until the cards run out.
- At the end of the game, each person will count the amount of fish they were able to keep.

-For an added exercise to show profits, you will calculate how much money you made based on the weight (in lbs) of each fish you caught. This will further demonstrate the difference between commercial and recreational fishing.

The price per pound is set by the dealer and is variable depending on the number of fish entering the market at a given time. We will assume that these are the price/pound:

Striped bass: \$3-\$4 per lb

Tautog: \$4.35 per lb

### **Discussion or Conclusion Questions**

1. What did you learn about the lives of striped bass or striped bass fishers that you didn't know before?
2. During the game, what were some problems that you faced? What were some victories?
  - a. How did you overcome the problems (if you faced any)?
3. Do you think that the lifestyle of a fisher is sustainable; that is, does a fisher make enough to live?
4. Compare the experience of being a recreational fisher to being a commercial fisher. What were the benefits and downsides of each?
5. Are there any other observations you would like to share about this activity? If so, please let us know! For example: something about the game, something you learned, or something you enjoyed/ didn't enjoy about the lesson overall.

### **Resources**

<http://www.strippedbassmagic.org>

<http://www.stripertracker.org/habitat/> (*Migration & habitat stuff*)

<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/mfsizes.php#commer12>  
(*restrictions*)

<https://www.mass.gov/files/documents/2016/08/no/2016-commercial-striped-bass-fishery-rule-reminder-24jun16.pdf> (*limit of striped bass daily-commercial*)

<https://alquattrocchi.wordpress.com/2012/10/10/the-great-fall-migration/>

<https://www.onthewater.com/news/2014/03/11/massachusetts-2014-commercial-striped-bass-regulations-announced>

[https://www.mass.gov/files/2017-08/newsletter-2017-q1-q2-website\\_1.pdf](https://www.mass.gov/files/2017-08/newsletter-2017-q1-q2-website_1.pdf)