Comprehensive Analysis of New York State's Stocked Trout Population

By Camryn Dorney
INFSCI 1520 – Spring 2025

This project explores the trout stocking trends throughout the state of New York during the 2024 spring season (March-June). Each graph helps to identify the peak places and times to fish during the trout season.

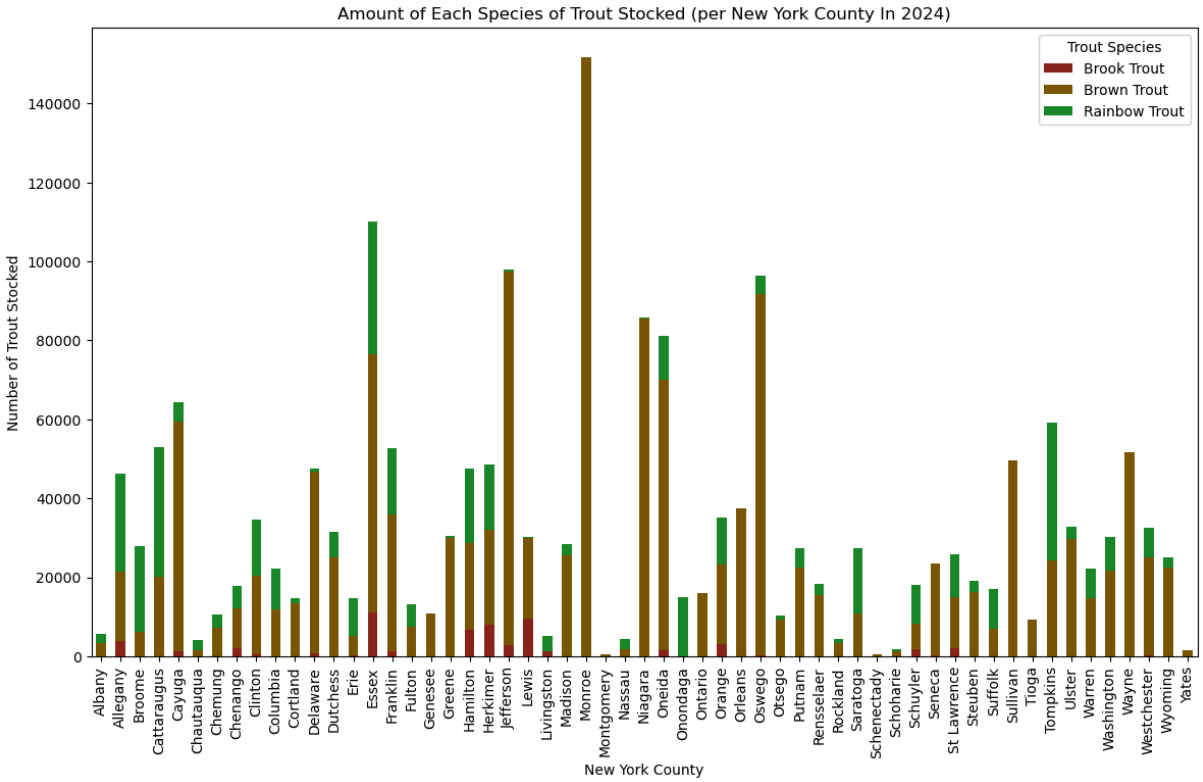

Figure 1: Amount and type of trout stocked in New York Counties in 2024

Figure 1

Figure 1, shown above, is a stacked bar chart that provides a very broad look at what species are stocked in what county in the state of New York. Along the x axis are the names of the counties and along the y axis is the amount of fish that were stocked. The red bars represent the number of brook trout, the brown represent brown trout, and the green represent rainbow trout.

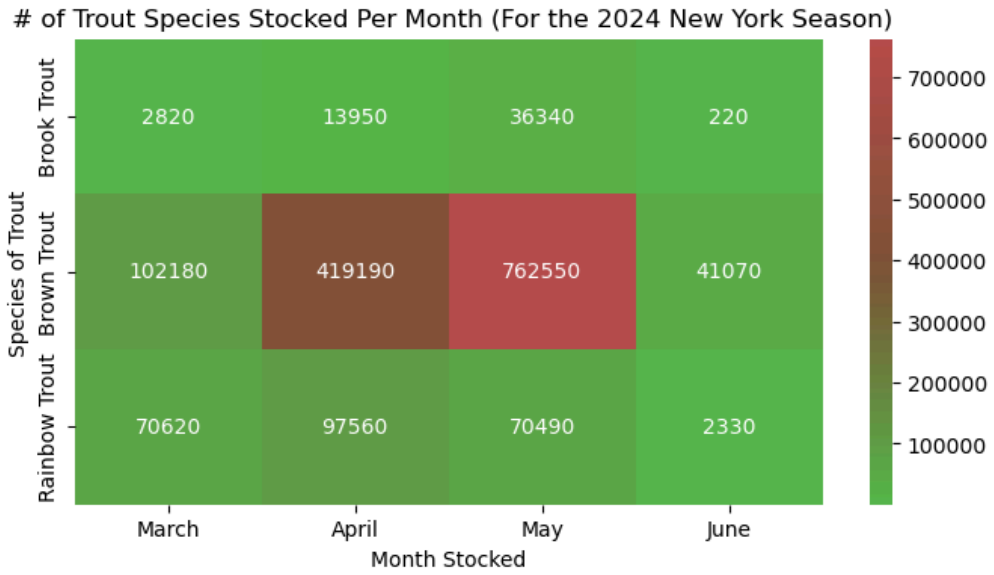

Figure 2: Amount of each species stocked per month in the 2024 New York fishing season

Figure 2

Figure 2 illustrates a monthly heatmap over the course of the Spring 2024 trout stocking season (March-June) in New York. Within the graph, the darker colors mean higher volumes of fish being stocked that month (reds), with the lighter colors representing less fish being stocked (greens). The months are along the x axis and the species of fish is along the y axis.

Findings

- Stacked Bar Chart (Figure 1)
  From this graph, it appears the most frequently stocked trout across these New York Counties is brown trout. The county that stocked the most rainbow trout was Tompkins, Monroe county stocked the most brown trout, which was the only species they stocked, and almost no counties stocked brook trout (red bar) and the ones that did hardly stocked any. Overall, Monroe county stocked the most trout, specifically brown, and Montgomery appeared to stock almost no trout at all. This makes Monroe country a great place to fish and Montgomery one of the worst.
- Monthly Heat Map (Figure 2)
  From this graph, it appears that the best month to fish and that gives you the highest likelihood of catching a trout is in May. As indicated by the red color, May is when the most fish were stocked, most of which were brown trout. April has the second greatest amount of fish stocked, also being mostly brown trout. So, overall, based on this graph, you have the highest likelihood of catching a trout in the middle of the season during April and May.

Data and Methods

- Stacked Bar Chart (Figure 1)

The data used for this visualization came from data.gov and contains the amount of trout stocked in the spring of 2024 in New York. In order to generate this graph I did a .groupby by "County" and "Species Name," and found the sum of the species with ["Number"].sum(), and then plotted that group.

- Monthly Heatmap (Figure 2)
  Once more, the data here comes from data.gov and contains the amount of trout stocked in the spring of 2024 in New York. The biggest issue with this dataset and wanting to generate a monthly map was that the dates were not very “clean,” as they were in the format of “April - first week.” So, using re, I would search for only the month value, (March|April|May|June), and apply the changes. From here a pivot table wqas created and then used to create the heatmap shown in Figure 2.

Importance

- Stacked Bar Chart (Figure 1)
  This clearly shows to fishermen where the best counties to attempt to fish are in New York. It allows them to see where fish are being stocked, and even the amount of each type of species, which aids them if they are looking to catch a particular type of fish. Essentially, the counties with higher volumes of stocked fish are the ones they should go to, as they have a higher chance of catching a fish there, which this graph helps to illustrate.
- Monthly Heatmap (Figure 2)
  Figure 1 shows the best place to catch a fish, but not so much the best time of the season in which to do so. So, with the heatmap, you are able to accurately see what time of the season where the most fish are stocked, thus showing you when to go fishing if you want a higher chance at catching a fish.

Github Repository

https://github.com/cdornn/2254-1520-INFSCI-Final-Project