

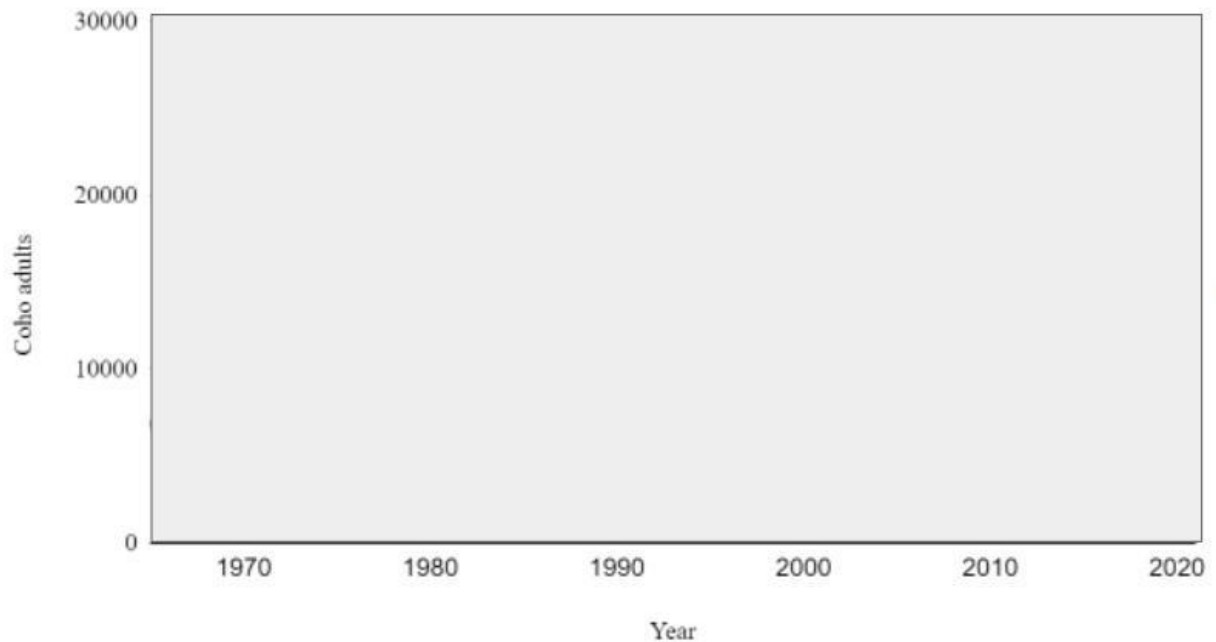
## Statistical Salmon Analysis (Teacher Key)

### Salmon Stats – Worksheet #1

#### Analyzing a Line Graph

A **line graph** or **line chart** is a graphical representation of data points connected by short line segments. Line graphs are commonly used to track changes throughout time. In the following questions, you will investigate a line graph that shows changes in returning adult Coho salmon over the Willamette Falls on the Willamette River from 1965 to 2021.

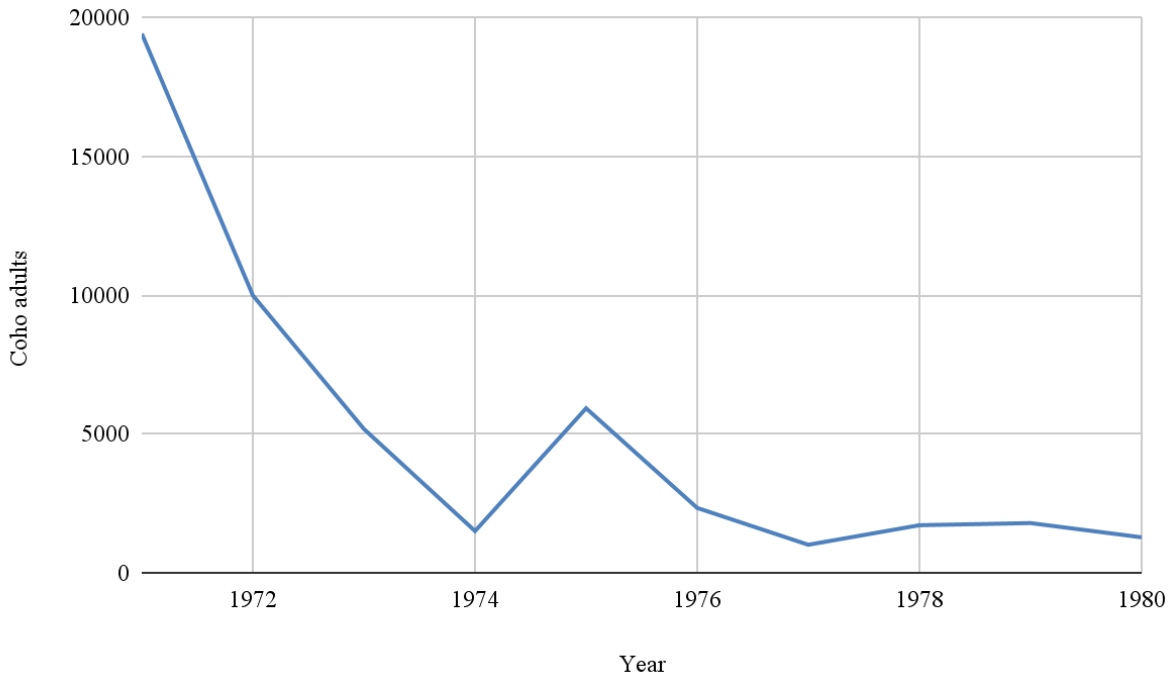
#### Returning Adult Coho



In the graph above, the data has been blocked out so we can focus on what the chart is telling us.

1. What is the label on the x-axis? year
2. What is the label on the y-axis? Coho adults
3. What is the minimum value on the y-axis? 0
4. What is the maximum value on the y-axis? 30,000
5. What does this graph tell us about Coho salmon?

The returning number of Coho adults over time



Use the graph above to answer the following questions.

6. What do you notice about the number of adult Coho between 1971 and 1980?

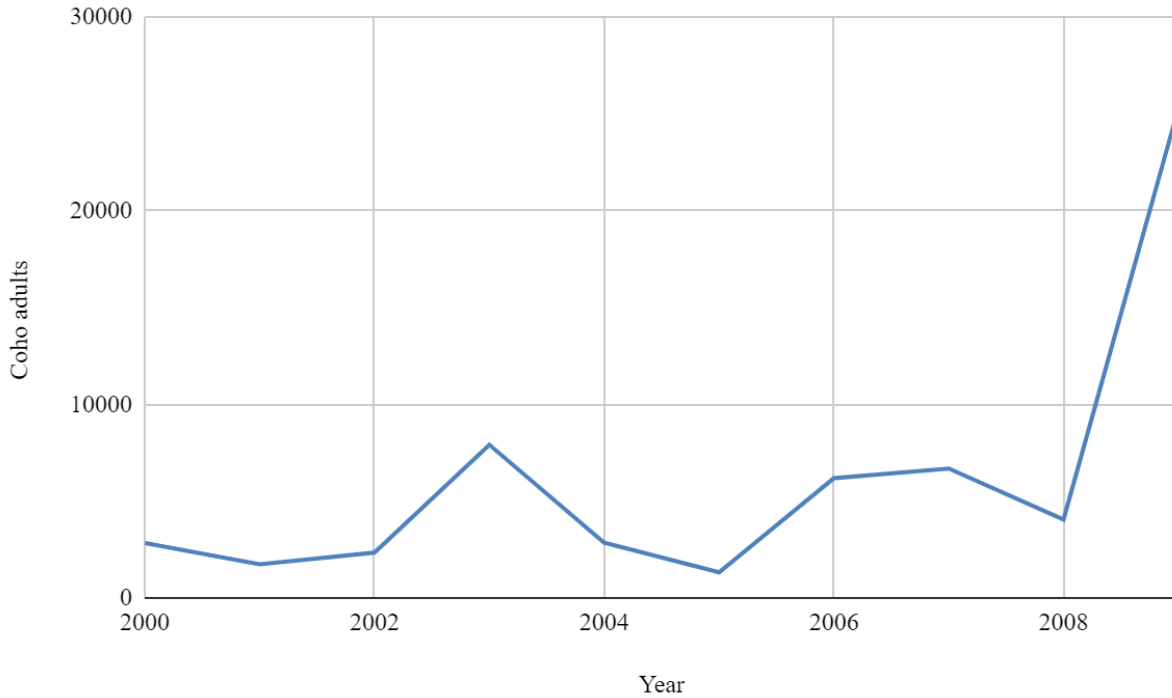
Population is decreasing

7. If you were a scientist studying this population of salmon, would you be concerned? Why or why not?

Answers will vary

8. Draw a line graph below predicting what the population graph will look like in the next ten years between 1980 and 1990. Make sure to label your x-axis and y-axis.

Answers will vary



Use the graph above to answer the following questions:

9. What do you notice about the number of adult Coho between 2000 and 2009?

Population is increasing

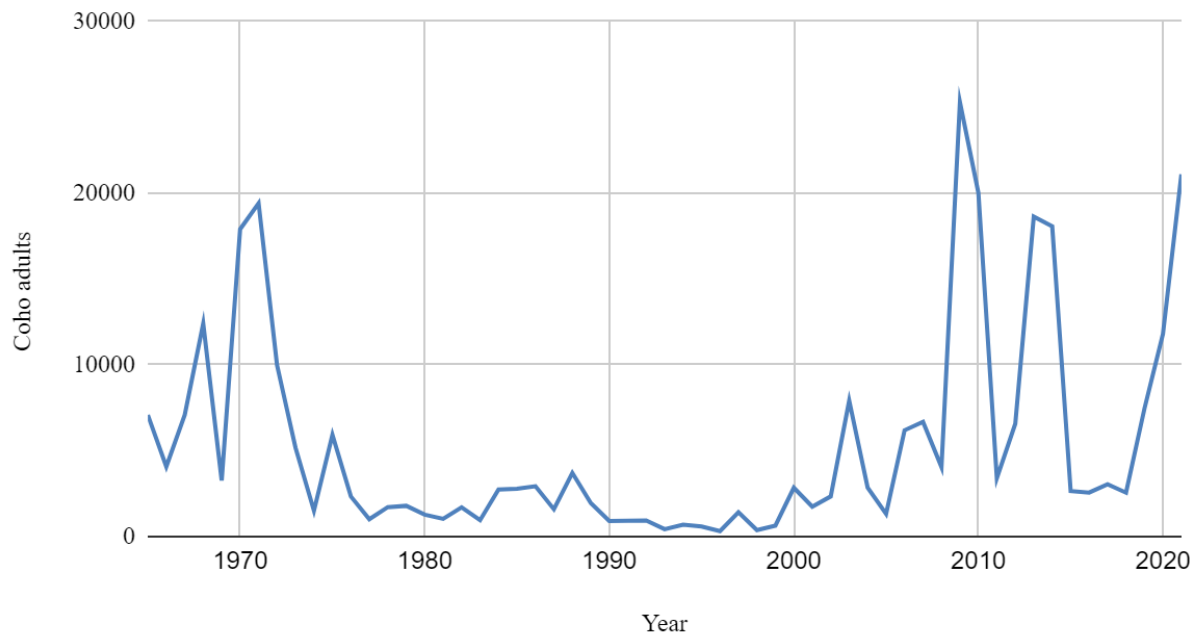
10. If you were a scientist, would you be concerned about the population after seeing this graph? Why or why not?

Answers will vary

11. Draw a line graph below predicting what the population graph will look like between 2010 and 2021. Make sure to label your x-axis and y-axis.

Answers will vary

## Returning Adult Coho



Use the graph above to answer the following questions.

12. Did your predicted graph from question 8 match the graph between 1980 and 1990? If not, what was different?

Answers will vary

13. Did your predicted graph from question 11 match the graph between 2010 and 2021? If not, what was different?

Answers will vary

14. What kinds of patterns do you see on the graph?

Throughout recent history, the returning number of Coho has fluctuated up and down.

15. When considering management strategies for a population, why do you think it is important to look at a bigger window of time instead of a smaller window of time?

A current trend up or down may be normal. We may not need to take drastic measures to manage the species.