

Marine Conservation Lab Report

Instructions: In the Marine Conservation lab, you will complete a necropsy to observe shark anatomy and determine the cause of death of a dogfish shark. Record your observations in the lab report below. You will submit your completed report.

(30 points possible)

Name and Title *(1 point)*

Include your name, teacher's name, date, and name of lab.

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Marine Conservation Lab

Objective(s) *(2 points)*

In your own words, what was the purpose of this lab?

The purpose of this lab was to explain how we can help the populations in different marine ecosystems.

Hypothesis *(2 points)*

You read about some potential threats to this type of shark. You are about to perform a necropsy to determine the cause of death. Make a prediction of what you think may have caused the death of this shark:

I think the shark's death had to do with the pollution in its environment.

Procedures

In this lab, you will:

- complete a virtual necropsy of a shark to determine the cause of death
- identify how human activities affect marine environmental quality for the shark population
- analyze the impact habitat destruction and pollution can have on an aquatic ecosystem and threaten the survival of some species

Data and Observations *(15 points)*

Specimen History

Description	Observations
Species	Spiny Dogfish
Coloration	Grayish brown
Length	110cm (1.1m)
Gender	Male

Necropsy Findings

***** Just as a note, I did search these terms on Google to get a more direct function explanation for each one. I still understand what they all do.**

Structure	Identify the function of each organ
Dorsal fins	increase the lateral surface of the body during swimming.
Caudal fin	helps provide thrust to the shark.
Claspers	help in reproduction (the short detail way of saying it).
Forebrain	responsible for learning and memory.
Midbrain	responsible for coordinating visual input.
Hindbrain	processes sensory information and moves the head.
Gills	helps with breathing.
Heart atrium and ventricles	helps to pump blood throughout the body.
Kidneys	aids in the manufacture and transport of urine.
Ovaries	help with fertilization (the short detail way of saying it).
Oviducts	enlarged to form uterus.
Uterus	eggs are developed into embryos.
Liver	Stores energy and helps the shark to maintain buoyancy.
Gallbladder	stores bile from the liver.
Stomach	stores food.
Pancreas	produces enzymes and regulates metabolism.
Spiral intestine	helps to digest food, and direct it through the gut.
Rectum	stores stool.

Laboratory Results

Tissue Sample	Result
Cerebral spinal fluid	Normal
Heart	Normal size and color
Gills	Normal
Kidney	Normal
Liver	Toxicology shows some elevated levels of methyl mercury
Stomach	Plastic present

Conclusion (10 points)

Your conclusion will include a summary of the lab results and an interpretation of the results. Please answer in complete sentences.

1. What are some of the threats to dogfish sharks?
 - **Pollution**
 - **Changes to their habitat**
 - **Development**
2. What abnormalities, if any, were detected in the necropsy results? How may these factors have contributed to the shark's death?

Liver – Toxicology shows some elevated levels of methyl mercury.

Stomach – Plastic present.

These factors both were toxic to the shark, which sadly led to its death.

3. Describe the stomach contents of the shark. What do the stomach contents indicate regarding the dogfish shark's eating habits?

Small fish, shrimp, and plastic were found inside the shark's stomach. This indicated that the shark has normal eating habits, but due to pollution the shark thought the plastic was prey. Therefore, it ate the plastic thinking it was just like all the other food it eats.

4. What do you predict was the main cause of death? Discuss what other factors may have contributed to the shark's death.

I believe the main cause of death had to do with the fact that its habitat was polluted. As we know already, the shark mistakenly ate the plastic thinking that it was just regular food. However, that plastic had toxic effects, which led to its death. The pollution most likely also made the habitat itself toxic to live in.

5. Could this have been prevented? What can be done to help preserve this species?

This could have been prevented. By making sure that these toxic substances and waste are kept out of marine ecosystems, the lives of the organisms that inhabit them can be protected.