

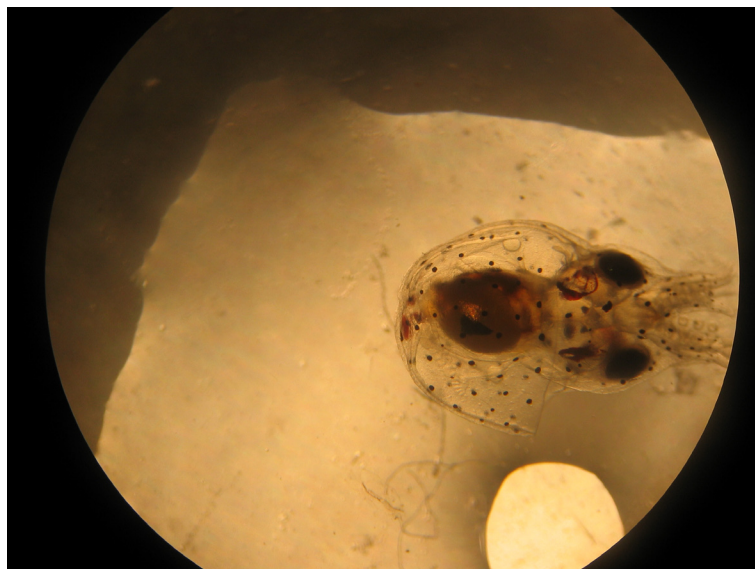


Journal of Student Research on Puget Sound

The collected reports of the student scientific explorations aboard the *SV Carlyn*

Salish Sea Expeditions is a catalyst for students in their inquiry of Puget Sound through boat based-scientific exploration.

**Meadowdale Middle School--Grade 7
Lynnwood, Washington**



Spring 2008

Salish Sea Expeditions
647 Horizon View Pl. N.W.
Bainbridge Island, WA 98110

phone: 206.780-7848
www.salish.org

Meadowdale Middle School

Spring 2008

MEADOWDALE VOYAGE ON THE "CARLYN" SPRING '08



INTRODUCTION

PREDICTION:

If: We Compare zoo plankton from different distances from shore and different depths.

Then: We predict that there will be more Zoo plankton at the surface and far from shore.

Because: Zooplankton need phytoplankton which need sunlight at the surface, and nutrients far from shore.

If: we compare zooplankton from different distances from shore and different depths

Then: we predict that there will be more zooplankton at the surface and far from shore

Because: zooplankton need phytoplankton which need sunlight at the surface and nutrients far from shore.

Why?

We want to know how many zooplankton that are in the San Juans because plankton is the base of the food chain, which everyone lives off of. Also, it sounds fun and we wanted to do it on something that's alive

Why?

- We want to know how many zoo plankton that are in the San Juans because plankton is the base of the food chain, which everyone lives off of.
- Also, it sounds fun and we wanted to do it on something that's alive. ☺



Sage Kendrick, Sarah Mun, Kaylynn Blosser
Cody Kendrick (Not Sage's Bro or Cousin)!!!!

EXPERIMENTAL DESIGN

Variables

Manipulated Variable:
- depth, - distance from shore

Responding Variable:
- zooplankton amounts
- nutrients

Controlled Variables:
- equipment
- how much time the net is in the water

materials

ITEMS / PURPOSE

Bucket on a rope
Niskin bottle
Flow meter
Zoo plankton net
Salinity probe
Dissolved oxygen meter
Nutrient test kit
Refractometer
Timer
Thermometer
graduated cylinder
Rope with markings

Take surface samples
Take samples from deep water
measures speed of current
Captures plankton from water
measures salinity of water
measures dissolved oxygen and temperature
tests for nutrients
also measures salinity
measures time
measures temperature of water
To measure the volume of objects
measures meters



Procedure

- 1) Tie equipment to the side of boat
- 2) Deploy science equipment (net = 5 min)
- 3) Harvest the data - record
- 4) Test samples or Measure samples - record
- 5) Analyze data
- 6) Draw to a conclusion
- 7) Communicate Findings



Variables:

Manipulated variables: Depth, Distance from Shore

Responding variables: Zooplankton amounts, Nutrients

Controlled variables: Equipment, How much time the net is in the water

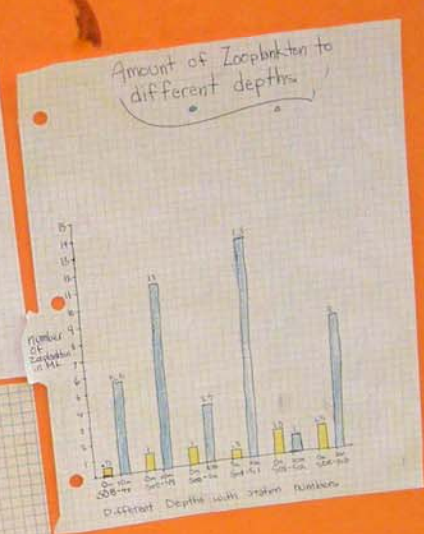
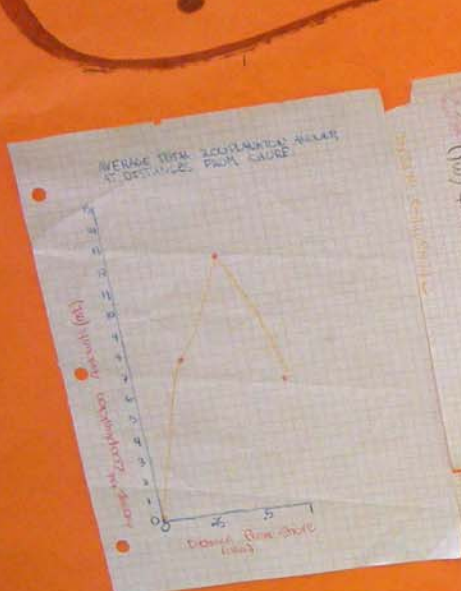
Materials (Items and Purpose):

- Bucket on a rope - took surface samples
- Niskin Bottle - Take samples from deep water
- Flow meter - Measures speed of current
- Zooplankton net - captures plankton from water
- Salinity probe - measures salinity of water
- Dissolved oxygen meter - measures dissolved oxygen and temperature
- Nutrient test kit - tests for nutrients
- Refractometer - also measures salinity
- Timer - measures time
- Thermometer - measures temperature of water
- Graduated cylinders - to measure the volume of the objects
- Rope with markings - measures meters

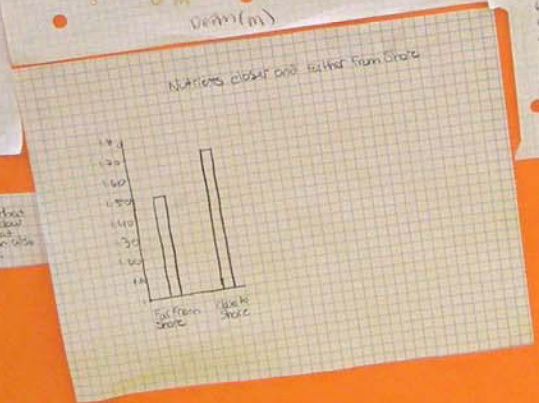
Procedure:

- 1) Tie equipment to the side of boat
- 2) Deploy science equipment (net = 5 minutes)
- 3) Harvest the data; record
- 4) Test samples or Measure samples; record
- 5) Analyze data
- 6) Draw to a conclusion
- 7) Communicate findings

★ Results



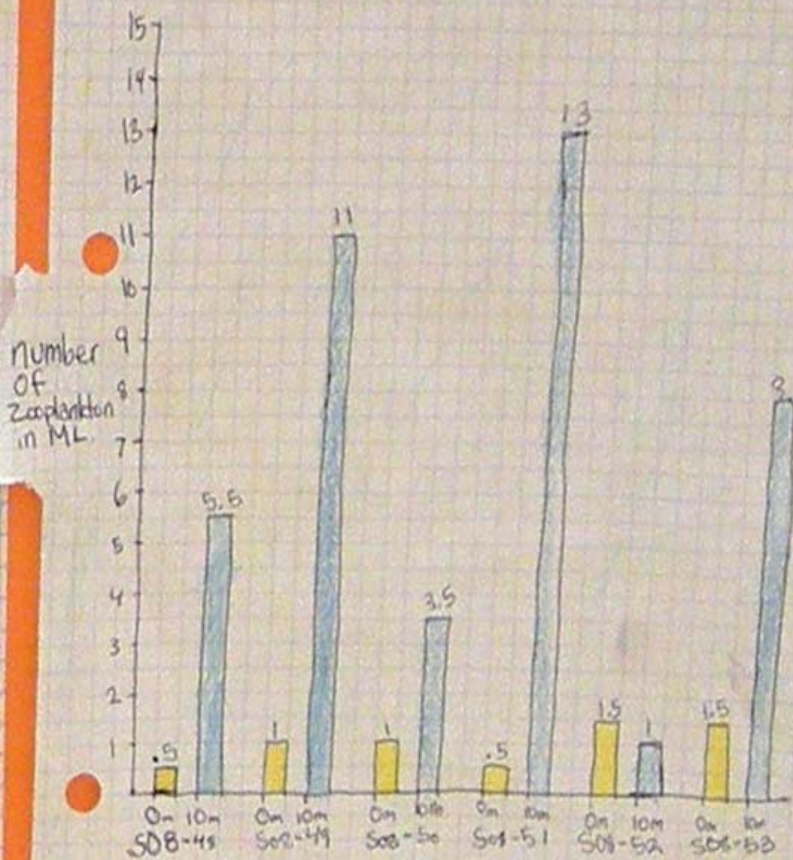
When the graphs above you realize that there are more zooplankton in the water closer to the surface than 200m. You can also see that the water near the shore is more turbid than the water further from shore. This is because there is more stuff in the water near the shore.



By: Taylor Zicke foose
Emily Stetson
Ethan Beals
Morgan Watson

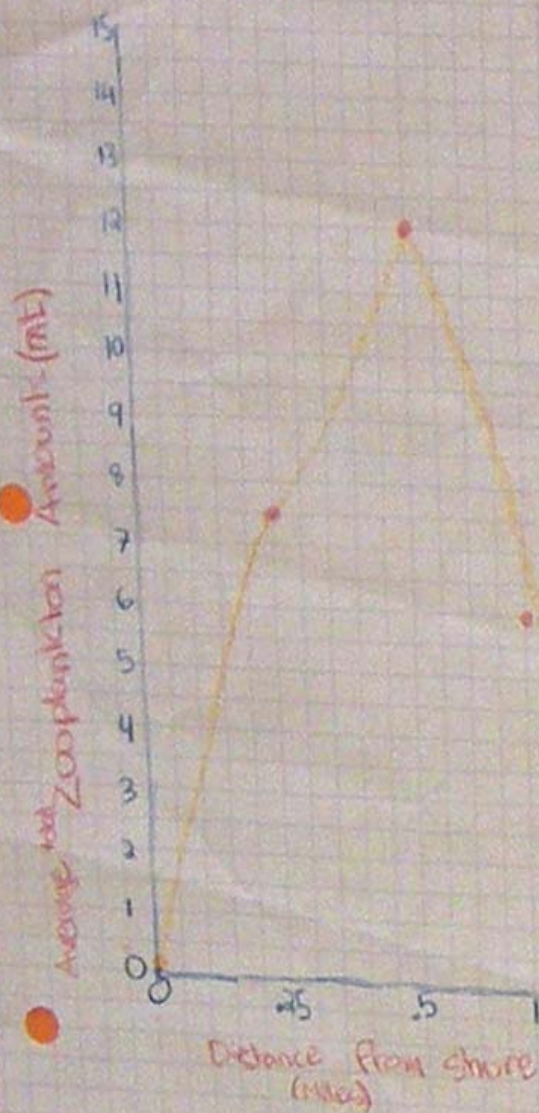


Amount of Zooplankton to different depths



Different Depths with station numbers

AVERAGE TOTAL ZOOPLANKTON AMOUNT AT DISTANCES FROM SHORE.

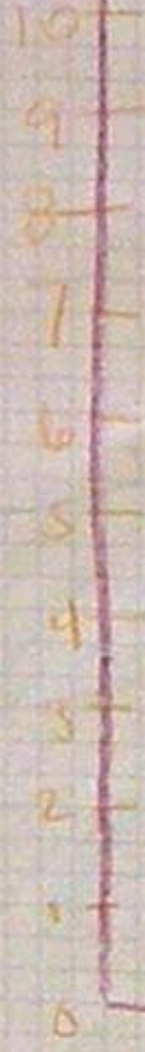


avg. Zoo planktoni amount found at 10m and 0m/surface.

Oxygen levels, 10m and 0m/surface

Depth (m) / Oxygen level

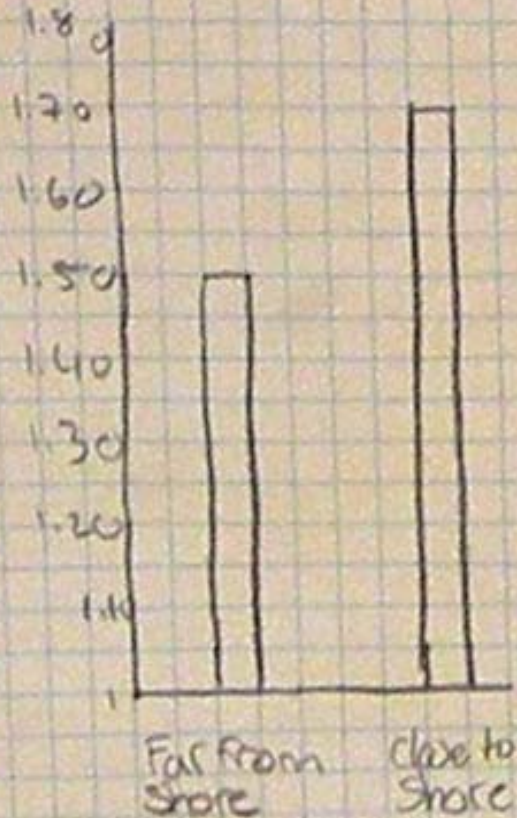
average zooplankton density



Depth (m)

Number of Zooplankton

Nutrients closer and farther from Shore



From the graphs above you can see that there are more zooplankton farther down (below the surface) than 0 meters. You can also see that there are more plankton half a mile away. You can also see there is more nutrients closer to shore.

From the graphs above you can see that there are more zooplankton farther down (below the surface) than 0 meters. You can also see that there are more plankton half a mile away. You can also see that there is more nutrients closer to shore.

What we found out:

That zooplankton are more abundant 10m under the surface and the distance from shore does not effect amount of zooplankton

Why we think so:

We think so because we took samples of the water and measured the amount of zooplankton from the distances from shore and we found that it doesn't matter

What we would do differently next time:

We would go to different places other than the San Juan Islands so we know where zooplankton are at different climates!

The poster is titled "DISCUSSION" in large, bubbly, blue letters with red outlines. Below the title is a thick blue horizontal bar. The text is written in purple and blue ink. There are several drawings: a red fish-like shape with a starburst, a purple starburst, and a purple scribble. The text is organized into sections with underlines and wavy lines. On the right side, there is a vertical stamp that reads "MIDDLE SCHOOL" and "EARTH" twice. The poster is decorated with small colorful dots and a wavy line border on the right side.

DISCUSSION

What we found out?

- That zooplankton are more abundant ~~at~~ 10m under the surface and distance from shore does not effect amount of zooplankton.

Why do we think so?

- We think so because we took samples of the water and measured the amount of zooplankton from the distances from shore and we found that it doesn't matter.

What we would do differently Next time?

- We would go to different places other than the ~~the~~ San Juan islands so that we know where ~~what~~ where zooplankton are at different climates!

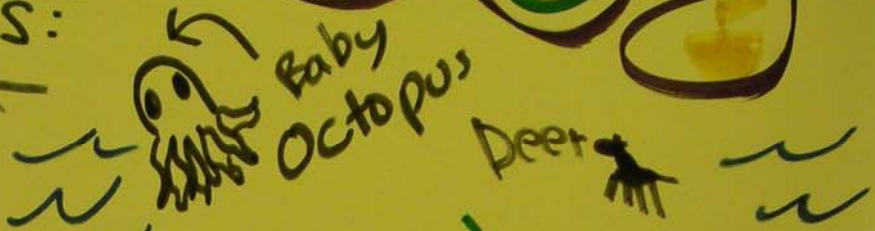
Handwritten notes on the poster:

- Casey
- MIDDLE SCHOOL
- EARTH
- EARTH

CRUISE SUMMARY

Camping sites:

- Sucia Island
- Jones Island
- Spencer's Spit (Lopez Island)



Food

- French Toast
- Chicken Alfredo
- Hamburgers
- Toasted cheese sandwich
- Brownies and S'mores!!!



Weather: ☀️
 Nice and sunny!
 Rainy the third night

SCARY STORY



GAMES:

- Big booty
- Spoons
- hikes FUN
- Slappity-slap
- hide n-seek