

# Monitoring Dungeness Crab Larvae in the Salish Sea: the Pacific Northwest Crab Research Group



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## Introduction

**Background:** Dungeness Crabs (*Metacarcinus magister*) hold significance in American west coast, both for ecological and economical reasons. Monitoring their growth and preservation is, therefore, imperative to protecting cultural and ecological integrity of Pacific Northwest. Previous recordings through PCRG (Pacific Crabs Research Group) have discovered fluctuations in Dungeness crab population data for prior years. This lab addresses the population of Dungeness crab for the year of 2021.

### Objectives:

- > Build crab trap that work to capture adequate amount of Dungeness crab population.
- > Record crab population data for ongoing crab preservation efforts.
- > Understand how crab larvae are affected through time and space.

**PCRg:** PCRg stands for Pacific Northwest Research Group. Which stands to support sustainable Dungeness Crab population in the Pacific Northwest. Researchers from various academia as well as tribal, local, state and federal agencies have come together to foster sustainable management of Dungeness Crab population.

## Methodology:

**Crab Trap:** The trapping mechanism worked in accordance with timer set to sunrise and sunset-- during sunset crab larvae are attracted to the trap via phototaxis. Approximately every two days trap is taken out of the water to be rinsed and opened to take marine life data.



**Measuring Dungeness Megalopae and Instars:** Dungeness Megalopae were measured via measuring carapace length, width, and total length ranging from telson to head. Instars were measured only within two dimensions, total width and total length.

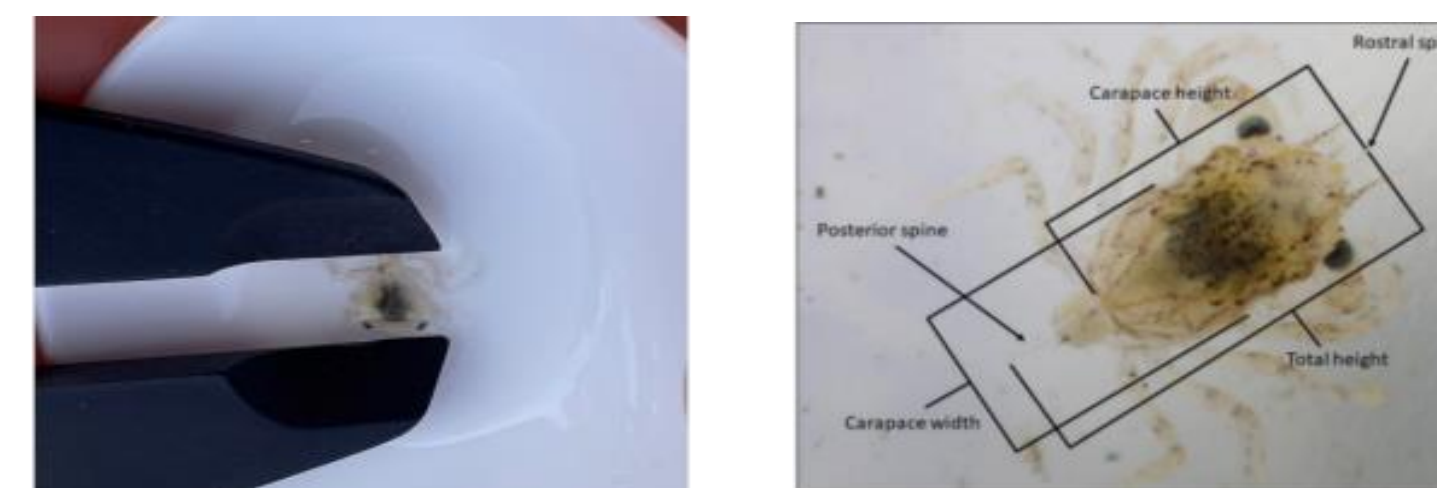


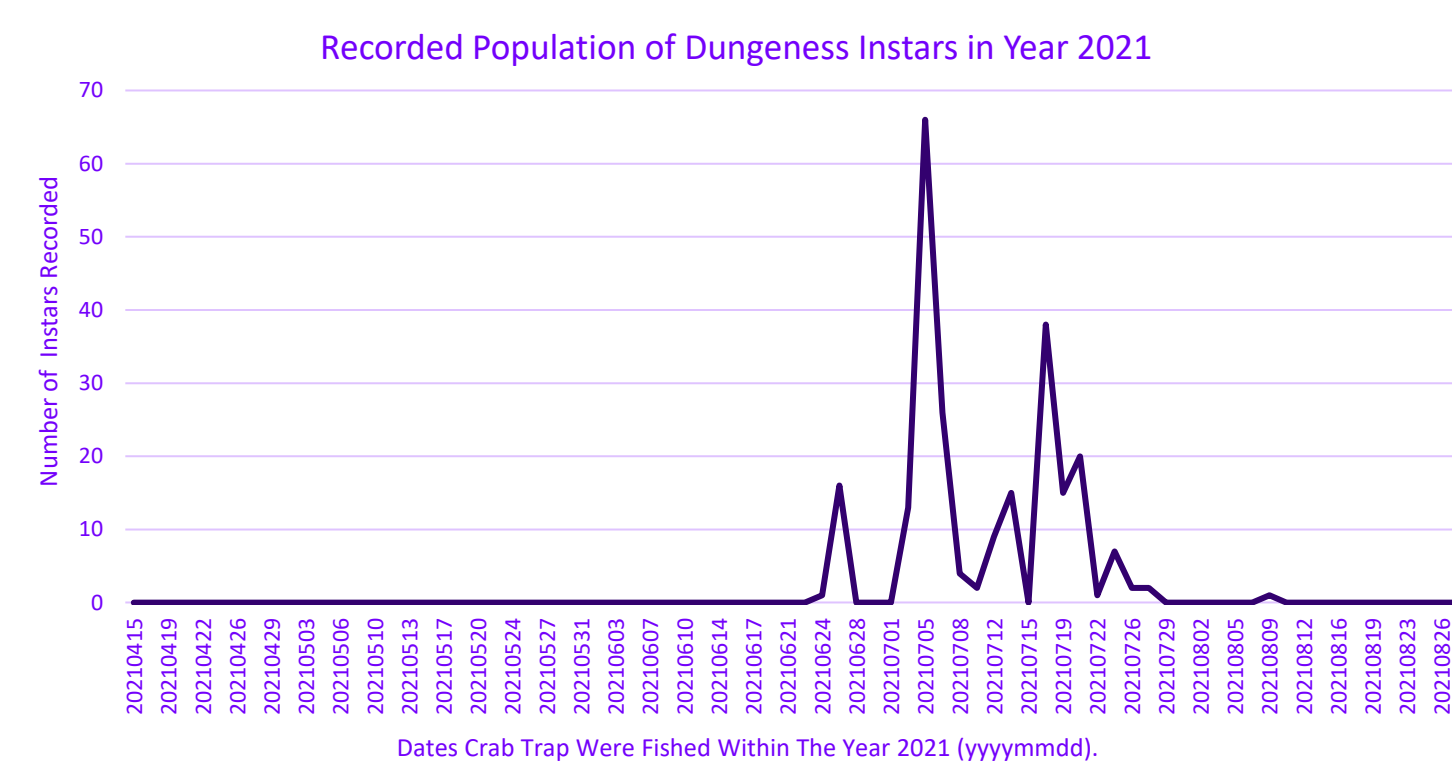
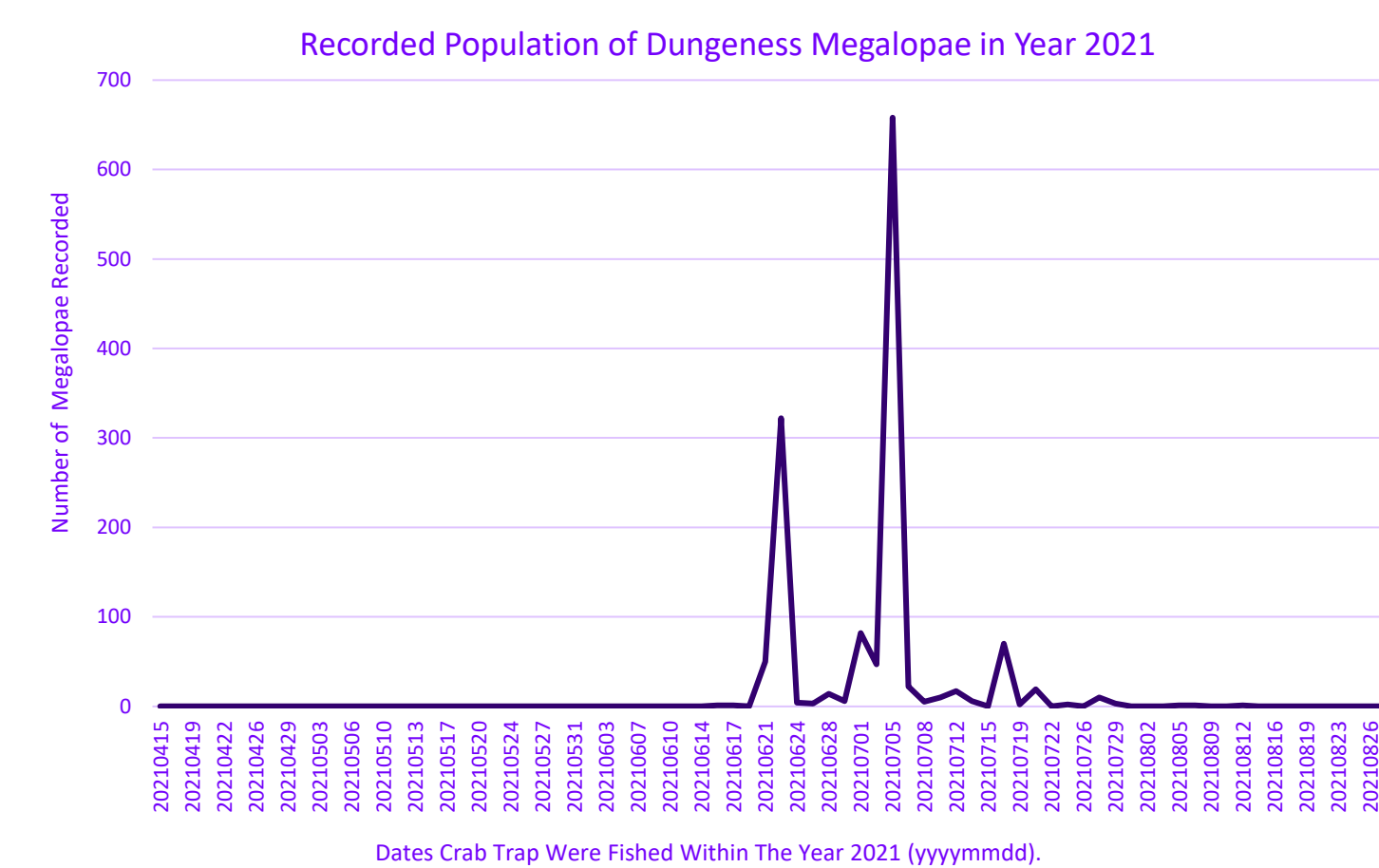
Figure 1: Measurement of Megalopae



Figure 2: Measurement of Instars

## Results:

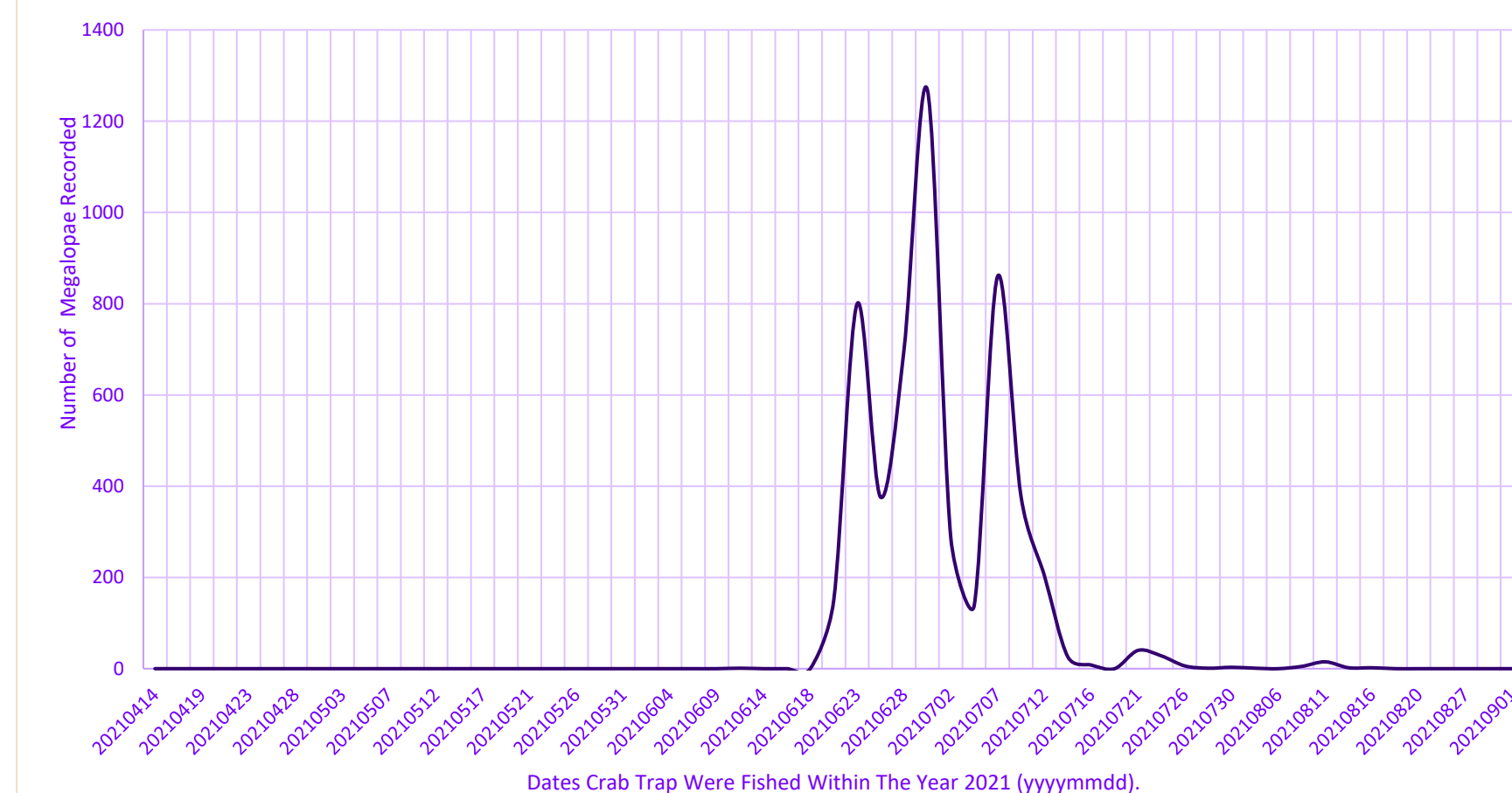
Record of Juvenile Crabs in MaST Site (Primary Lab Data)



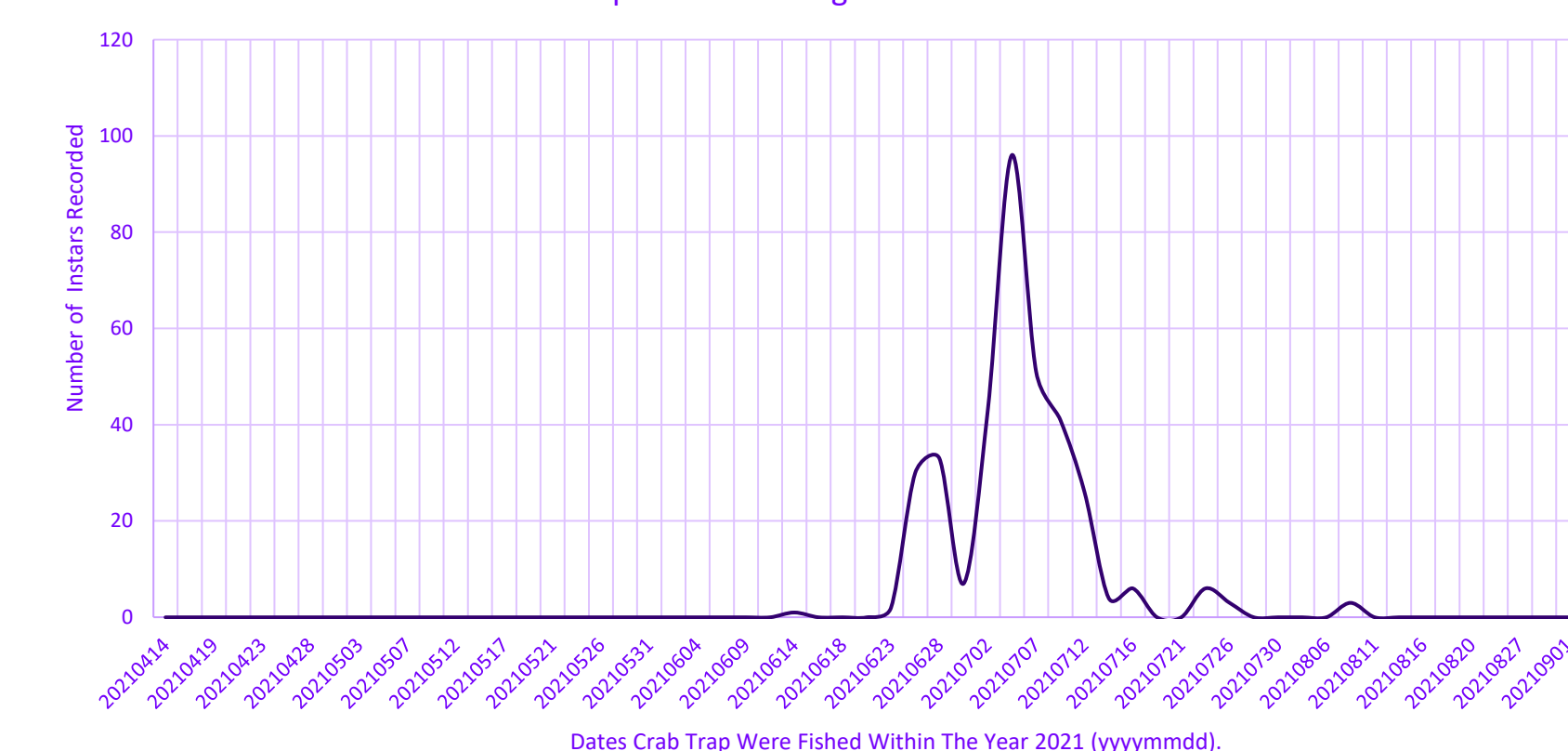
- Analysis of both Instars and Megalopae present abrupt population growth between the period of early June to late July of 2021.
- Data shows no significant presence between April through May of 2021.
- The number of Instars fished roughly correlated with the amount of Megalopae being fished.
- Mirroring data was found in Manchester site—also part of PCRg.
- Total Dungeness Megalopae collected in MaST site in 2021 was 1357, while total instars numbered 259.

Record of Juvenile Crabs in Manchester Site (Comparative Study Courtesy of Puget Sound Restoration Fund)

Recorded Population of Dungeness Megalopae in Year 2021



Recorded Population of Dungeness Instars in Year 2021



## Acknowledgement

This project has been a collaboration between multiple partners and volunteers. Credits go to Highline College for providing their research site within the MaST center in Redondo Beach. To volunteers from Tacoma Public Schools, Tacoma Community College, and University of Washington Tacoma. As well as the PCRg network, and the Puget Sound Restoration Fund, who provided us with Manchester data.