

USING A DO-IT-YOURSELF UNDERWATER CAMERA SYSTEM TO OBSERVE NOVEL JUVENILE ROCKFISH ASSEMBLAGES

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INTRODUCTION:

A major goal of Marine Protected Areas (MPA) is to improve fish populations (Calvenese 2016). To assess if an MPA is advancing fish populations, frequent monitoring of juvenile and adult fish must occur using the least invasive methods. (Struthers et al. 2015). Snorkel surveys can be intrusive and disturb fish, reducing data accuracy (Struthers et al. 2015). Underwater video data, conversely, can provide a more complete picture of fish populations without disturbance, yielding more accurate data.

Q. Can a DIY underwater camera system be used to identify marine species?

METHODS:

The underwater camera system consists of three major elements: housing, built using PVC and other accessible materials, a GoPro Session camera fitted with an extended battery, and a weighted anchor. The camera system was deployed in a tide pool in Nellie's Cove near Port Orford, Oregon for 24 hours. The resulting video was then reviewed to identify species using field guides.

Juveniles observed from the underwater camera system deployed in Nellie's Cove differed from those observed in research collected from an area adjacent to Humbug Mountain.

Housing

Camera Equipment

Anchor

UNDERWATER CAMERA SYSTEM

Fish species observed in Nellie's Cove (OYTB complex left, QGBCC Complex center, and pile perch right).

RESULTS:

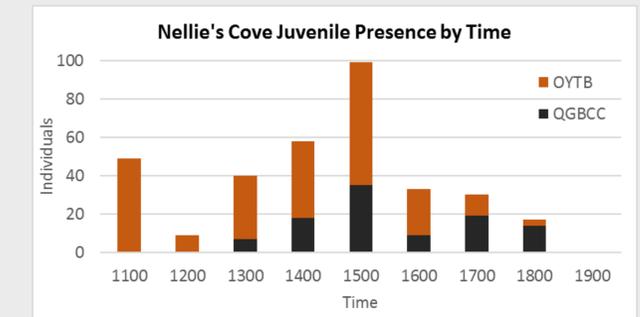


Figure 1. Previous research collected mainly cabezon juveniles and OYTB Complex whereas OYTB and QGBCC Complexes were observed in Nellie's Cove.

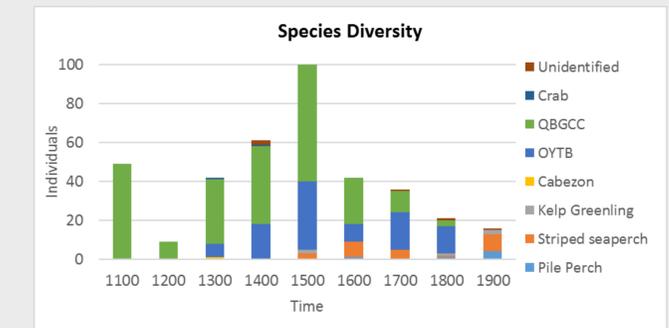


Figure 2. Various species were observed over eight hours and adults were found to be most active in low light.

DISCUSSION

A. Within the first 8 hours of video, novel rockfish complexes were identified that had not been observed in previous research, providing valuable population data for resource managers.

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