Invasive species have largely invaded harbors, and rarely, the rocky intertidal coast in San Francisco Bay Area.

These invasive species can lead to declines in native species or modification of the community structure.

Watersipora spp. is an invasive bryozoan species that has uniquely spread along the rocky intertidal coast and presents itself as a possible invasive species to impact the open-coast ecosystem.

**Objective:**

1. Assess occurrence of Watersipora spp. at four sites and how it changes from lower intertidal to the higher intertidal.
2. Investigate the community composition where Watersipora is located and the interactions with surrounding organisms.

**Hypotheses:**

- Watersipora occurrence will be less along lower intertidal transect than higher intertidal.
- Watersipora will compete more with organisms that occupy the same ecological niche within the rocky intertidal community.

**METHODS**

**ASSESSING ABUNDANCE**

1. Transect one (30 meters) placed parallel to the coast line where max abundance is assumed.
2. Transect two (30 meters) placed at the mean distance of the Watersipora colony found farthest up the shore by walking perpendicular of transect one at 0 meters, and 30 meters.
3. One meter to each side of the transect all Watersipora colonies are documented for size and structure.

**COMMUNITY COMPOSITION**

1. Every other Watersipora occurrence located was photographed using a 15cm by 15cm square quadrat with each square within it measuring 2.5cm by 2.5cm.
2. Common organisms are scored either for presence within each square or a count.
3. Organisms that were in contact with the Watersipora colonies were noted.

**RESULTS**

Abundance is higher along the lower intertidal transect throughout all four sites and presents a more diverse and larger spread of Watersipora occurrences.

The total number of Watersipora colonies was greater at sites further from the bay outflow. Watersipora occurrence was greater at each of the four sites lower in the intertidal.

**DISCUSSION**

- Slide Ranch and Muir Beach, located furthest from the Bay Area outflow, has greater total number of colonies than sites distant from the bay.
- Watersipora might not be sourced to the outer coast particularly from the San Francisco Bay since Watersipora is abundant and successful inside the Bay itself.
- Across all four sites, sizes of Watersipora colonies were variable and able to populate across both transect habitats.
- Future consideration: investigation on how the Bay outflow's variable conditions influence Watersipora and nearby rocky intertidal communities.

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**REFERENCES**