

## Introduction and background

Our research goes into depth about the general problem of how invasive species are going into ecosystems and taking over the native species. In the past, researchers have found that invasive species can physically alter the habitat in a many negative ways. One of the biggest effects of invasive species is the huge impact they have on killing off the native species in the environment. A loss in our natural resources can have negative effects on the economy.

## Research methods

**Approach:** We collaborated with park rangers at Salmon Creek to determine if invasive species growth in Salmon Creek Estuary affect the ecosystem.

**Setting up our study:** To locate invasive species near the estuary, we worked with the park rangers to receive a list of all the invasive vegetation. Each different plant had a different location at the estuary. A G.P.S was used to locate each site.

**Analyzing vegetation:** For each area on our list we noted vegetation present and did a rough percentage of cover estimation by eye.

## Results

- Density of invasive species were greater than native species.
- Invasive species were more abundant compared to the native species.



Figure 2: Salmon Creek Estuary after recording percentages (2007)



Figure 3: Salmon Creek Estuary after recording percentages (2017)

## Discussion

- Invasive species are growing in dense patches. Slowly taking over native species land.
- To further the investigation of invasive species. Continue the experiment, and see what effect it has on organisms.

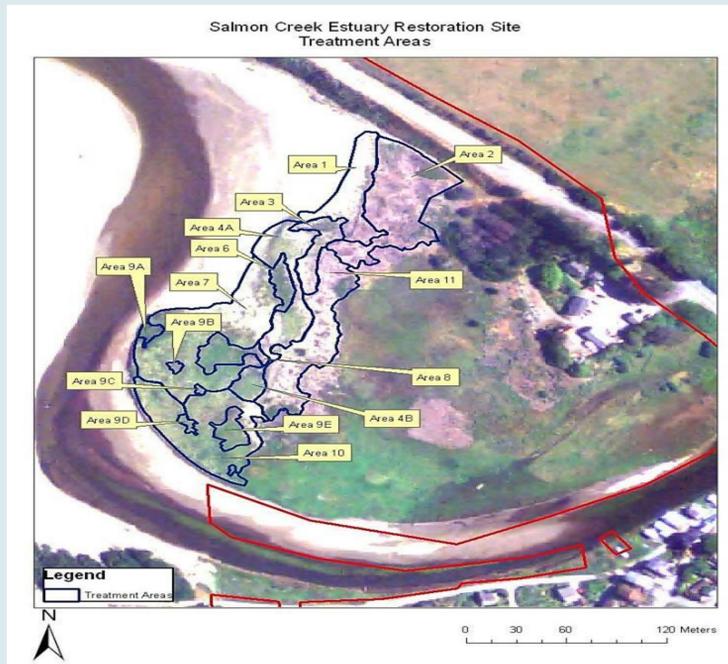


Figure 1: Map of the Estuary, with the different vegetation sites listed

## Conclusions

- Invasive species are taking over the habitat over a consistent period of time. After, ten years have passed we gathered data that shows invasive species will continue to rise, if not dealt with. We updated the photo monitoring sites, surveyed the estuary, and noted the percent coverage of certain areas across the estuary. Habitats are being invaded by invasive species and native plants are being chocked out.
- Our naturally habitats may slowly be taken over by invasive species, reducing native species and possibly remove them from the ecosystem. Invasive species also effect the estuary's land and certain species cause erosion of sand banks. The main focus is to preserve biodiversity by allow native species thrive, and promote productive health for the estuary .

## References

GALLARDO, B. , CLAVERO, M. , SÁNCHEZ, M. , & VILÀ, M. (2016). Global ecological impacts of invasive species in aquatic ecosystems. *Global Change Biology*, 22(1), 151-163.

## Acknowledgements

Wendy St. John, Dr. Guilford, Salmon Creek Estuary Park Rangers