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The impacts of historical wood storage on nearshore eelgrass (*Zostera marina*) habitat (Won't present live)

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Impacts of historic log storage to eelgrass (*Zostera marina*) habitat in the Salish Sea

Sonia Domarchuk-White, B.Sc. Ecological Restoration

Introduction

Sheltered bays and estuaries along the Salish Sea coastline provide both ideal conditions for eelgrass growth and prime locations for lumber outfits to collect and harbor logs for transport.

While in place, log booms shed organic debris which accumulates on the seabed below (Breems and Goodman 2009).

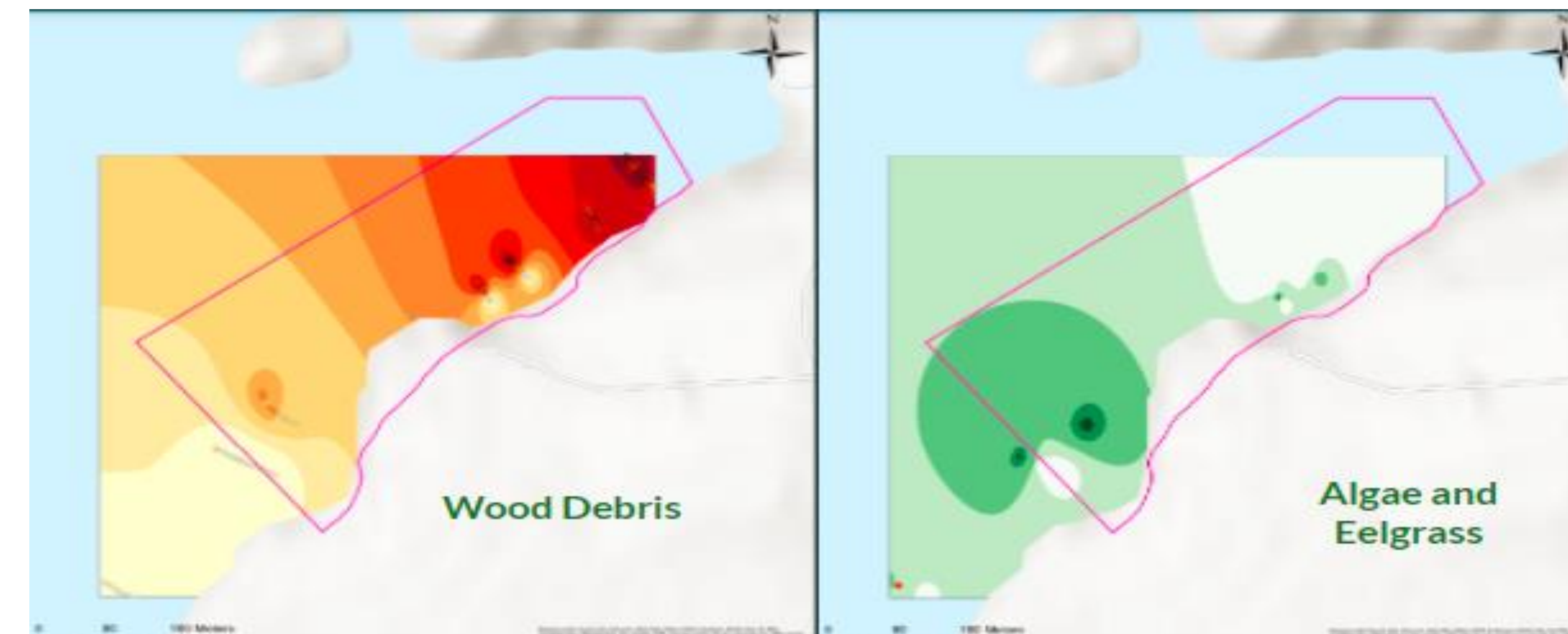
Decommissioned log storage sites have potential to be replanted with eelgrass transplants however, benthic conditions caused by historic log storage may be limiting eelgrass transplant survival.

Methods

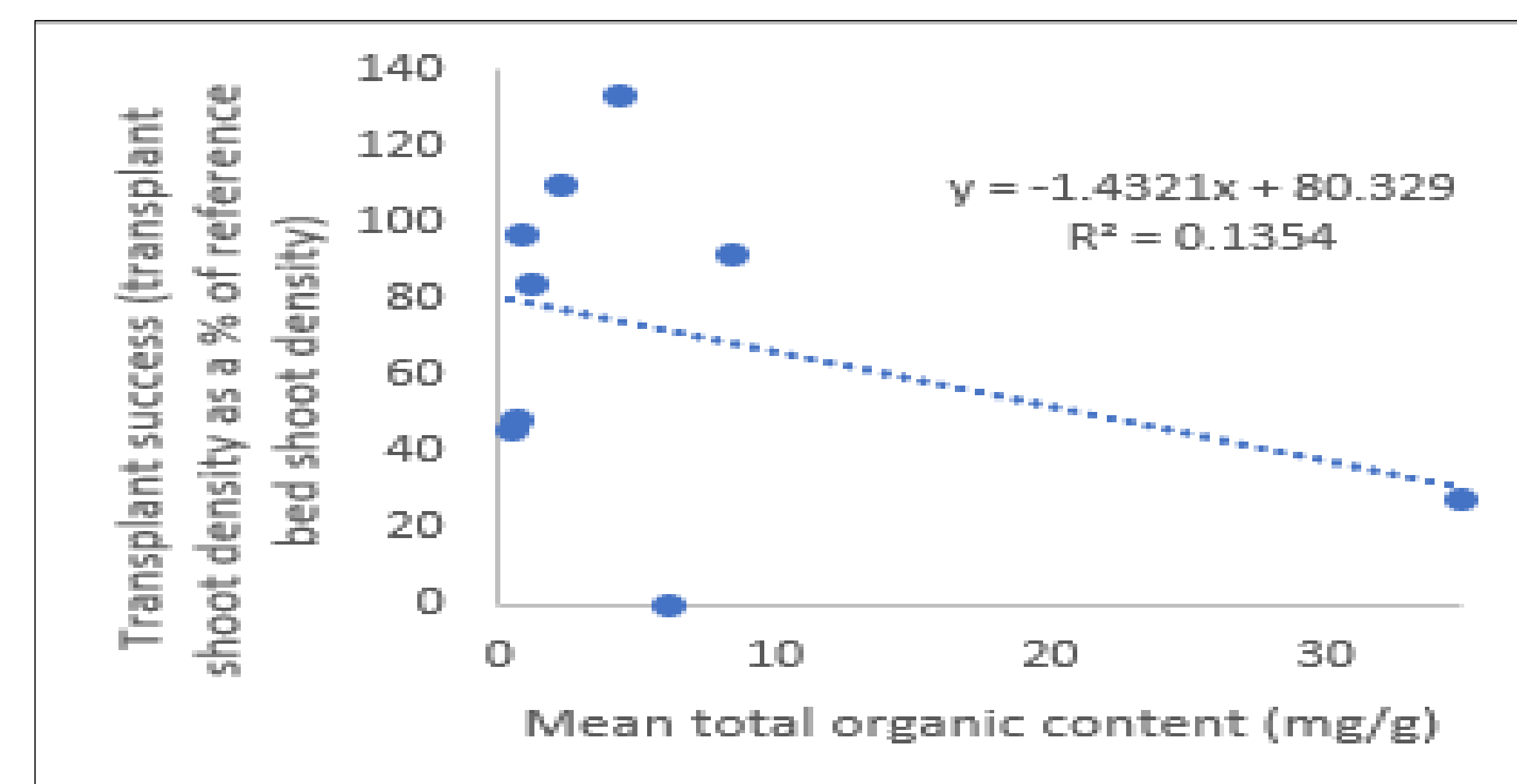
1. Underwater towed video and mapping.
2. Sediment core samples for oxygen reduction potential and residual woody debris content.
3. Ponar grab samples for benthic invertebrates

Results

1. Underwater towed video and mapping



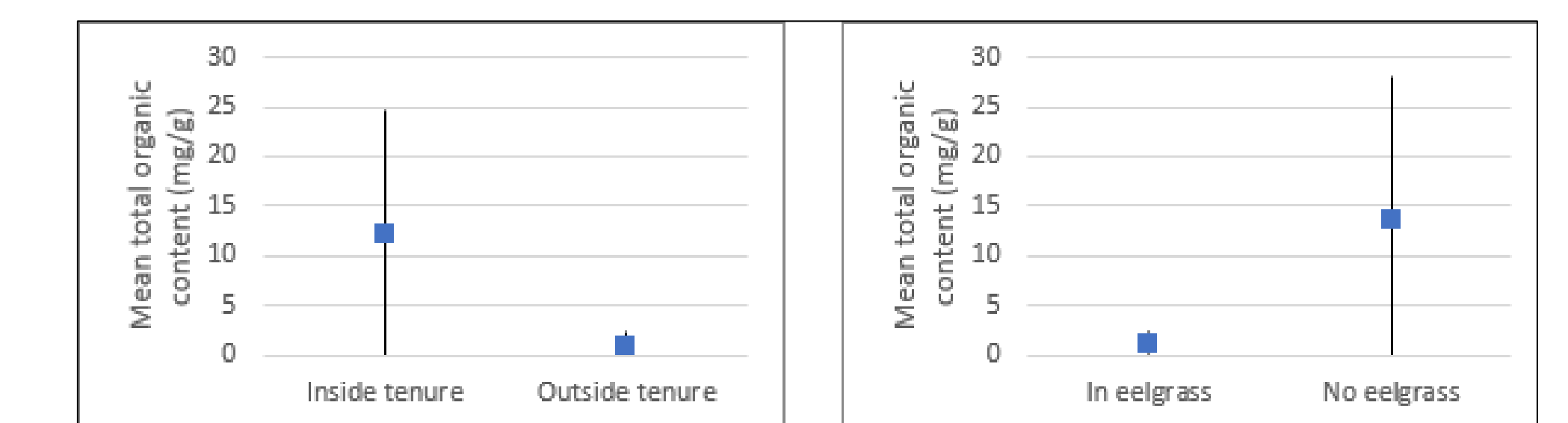
2. Sediment core samples



3. Ponar grab samples – results pending

Conclusions

- Video analysis shows no eelgrass growing in areas of high woody debris concentration (>10 mg/g).
- There may be a biologically significant relationship between the success rate of eelgrass transplants and benthic sediment total organic content.



- Where organic content did exceed 10 mg/g, bark accounted for 79-94% of the total organic content. Bark is less dense than wood and is easier to disperse, therefore a high percentage of bark in woody debris deposited decades ago indicates that it is not likely to be dispersed by wave energies. Residual debris that is mostly comprised of bark has a longer potential duration of impact to benthic sediments and eelgrass habitat.
- There is little data on the benthic conditions in the Salish Sea overall. Any further work which provides environmental data for baseline conditions will provide valuable information to help guide the efforts of restoration practitioners in the future.

Literature cited

Breems, J. and T. Goodman. 2009. Wood waste assessment and remediation in Puget Sound. Prepared for Estuary and Salmon Restoration Program of the Puget Sound Nearshore Ecosystem Restoration Project.

Acknowledgments

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Further information

Study can be found at www.marinescience.ca

Study maps and raw data can be found at the Straight of Georgia Data Centre at sgodatacentre.ca

You can contact me at sophia_writ@hotmail.com if you have any questions