



Jill Thompson <jill@cowichanwatershedboard.ca>

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## Letter of Support

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Goetz Schuerholz <taesco@shaw.ca>  
To: Jill Thompson <jill@cowichanwatershedboard.ca>

17 November 2022 at 03:48

Hello Jill,

The reason for this mail is to ask for the support of the Cowichan Watershed Board for a project on micro-plastic (MP) research in the Cowichan Estuary, started last year by CERCA in cooperation with scientists from Simon Fraser University, UBC, and the Canadian Wildlife Service. As you may be aware microplastics are arguably one of the greatest anthropogenic challenges now facing terrestrial and aquatic environments. Coastal and estuarine environments in particular often contain the highest levels of microplastics from upstream sources and floodplain settlements. Tidal activity, high water, and turbidity accelerate the breakdown of microplastics into smaller micro fragments, except for microfibers. As our understanding of the prevalence of microplastics and their impacts on marine-coastal ecosystems and the species that inhabit them grows, it is becoming increasingly important to assess risks to local wildlife and the food chain.

Phase I of the study demonstrated the presence of micro-plastics, including HDPE and PP within the Cowichan Estuary, setting the groundwork for PHASE II, an assessment of the risk micro-plastics present to estuarine food webs. CERCA has partnered with Project Watershed, a charitable non-profit organization from K'omoks, for the work at the K'omoks watershed. We propose a "twinned" approach where two estuaries (i.e. Cowichan and K'omoks estuaries) will be sampled and assessed for the presence/absence of MP in water, sediment, crustaceans, and fish. This twinned approach will provide a comparison of sources and behavior of MPs within ecologically and biologically sensitive ecosystems. Project Watershed is closely cooperating with the K'omoks First Nation. The project has been approved by the KFN Chief and Council

An important data gap the proposed project will address is the potential for the ingestion of MPs by fish that inhabit the intertidal sediment/water interface for some part of their life cycle. While some studies have addressed the uptake of MPs by fish (e.g., herring), existing studies are pelagic and have focused on

microfibers. The unknown is the potential for the uptake of micro-beads and micro fragments by fish that reside within the sediment/water interface of the intertidal. Examples are the sand lance as well as the fry and smolt stage of Pacific Salmon species. CERCA has partnered with the BC Conservation Foundation which will contribute samples of forage fish and salmon from both estuaries. Research supervisors will be Dr. Leah Bendell from Simon Fraser University and Dr. Juan Jose Alava Saltos from UBC.

Meanwhile, CERCA in cooperation with Simon Fraser University, UBC, and Project Watershed from K'omoks has secured a post-doc fellowship and two fellowships for master students from Mitacs for Phase II of this project to be started in 2022.

Although CERCA and Project Watershed will provide substantial in-kind contributions the project is still short of funds to cover costly lab work and the financial counterpart contributions to be made by CERCA for the Mitacs fellowships.

Against this background, CERCA would very much appreciate a letter of support to be added to a funding proposal under the OPC-BPC (DFO/MPO).

For any questions regarding the project please get in touch with me.

Looking forward to your positive response,

*Goetz Schuerholz*

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Dr. Goetz Schuerholz

Conservation Ecologist

**Chair**



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We gratefully acknowledge that we live, work & create on the unceded lands of the Malahat, Ts'uubaa-asatx, Quw'utsun, Halalt, Penelakut, Stz'uminus, & Lyackson Peoples.

*"We burn Carboniferous-era fossil fuels to melt Pleistocene-era ice to determine Anthropocene future climates" (Robert Macfarlane)*