



## “Fishing for Innovation in the Natural Sciences”

**Abstract:** Mr. Brent Law, Fisheries & Oceans Canada

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***Seasonal change in grain size and erodibility on a channel-flat complex in Kingsport, N.S.: Understanding natural variability and tidal power development***

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Understanding the processes controlling the temporal and spatial variation in sediment texture and erodibility on muddy tidal flats and channels is required to predict the transport of sediment in these areas. In April 2011, a study was initiated to examine the seasonal change in grain size and erodibility on a muddy macro-tidal flat and channel complex in Kingsport, N.S. Surficial sediment samples were collected for grain size analysis every month from a tidal flat and from a tidal channel and its banks. Erodibility measurements were made monthly from the tidal flat, left and right tidal channel bank, and the channel thalweg. The monthly sampling was completed in March 2013. Results suggest that bottom sediment size on the tidal flat correlates with distance to the nearest channel and that flocculation plays a major role in sediment deposition. Erodibility measurements show an annual order of magnitude difference in mass eroded which reflects a similar change in concentration in the Minas Basin. Findings from this study are discussed in terms of a larger sediment budget for the Minas Basin area and the development of tidal power.