THE EVOLUTION OF NATURAL CHANNEL DESIGN PRACTICE IN THE MARITIMES: FROM DIGGER LOGS TO HOLISTIC CHANNEL REALIGNMENTS

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Over the last 15 years, the application of 'Natural Channel' approaches has highly evolved in the Maritimes. This paper is intended to highlight the evolution from the state of the practice, including approaches from practitioners, expectations of both the public and private sector as well as the role of the regulatory agencies. The paper draws upon experience over the last 15+ years in PEI, Nova Scotia and New Brunswick. The work presented is a summary of the practice as well as from insight and interviews with clients, NGO groups and regulatory bodies.

The primary findings are:

1. The practice has highly evolved from the use of simple structures (digger logs to random boulder clusters) to designs with modified channel sections, grade control, varied stone sizes and treatments for channel function and aquatic habitat. Accordingly, the amount of technical analyses and science that is required has greatly increased. The implications are more comprehensive studies and designs, although there are fewer 'local' groups that are able to work in the streams.
2. The types of projects and applications where natural channel design is being applied has greatly increased. Fifteen years ago, the work was largely for habitat enhancement, now the range of applications extend from fish passage (moving away from fish ladders), channel restoration (beyond basic bank stabilization), erosion and management of sediment movement, and into engineering projects associated with river training and structures. We've also seen that the scale of the projects have been growing and the projects are initiated earlier to enable more data collection and analyses and are lasting longer to permit some performance monitoring.
3. There has been a significant evolution in the regulatory agencies in accepting and embracing the practice of natural channel design. There has been a large evolution and adoption from the practitioners through to the influential NGO's. This has contributed to the role of DFO in Maritimes from highly controlling the work and essentially limiting instream work to local structures to the full support of more comprehensive assessment and designs.