

# Approaches for Development of Nutrient Criteria in Oregon Estuaries With a Focus on Tillamook Estuary

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Development of nutrient criteria for all water body types of the US remains a top priority for EPA. Estuaries in the Pacific Northwest receive nutrients from both the watershed and the coastal ocean, and thus are particularly complex systems in which to establish water quality criteria. We will first summarize our knowledge on causal and response variables relevant to development of nutrient criteria for Oregon estuaries, and then summarize research approaches being used to clarify nutrient inputs and responses in these systems. Based on currently available data, a reference condition approach which incorporates both landscape and marine drivers appears most promising. A variety of tools are also in development to aid in compliance monitoring and identification of nitrogen sources.

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