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A management context for the statistical design of recreational contact water quality monitoring programs

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INTRODUCTION

When considering the statistical design for a beach monitoring program, it is important to recognize that a single sampling design will not be appropriate for all management applications. Many factors influence sampling design selection, the most important of which is the monitoring objective. Typically, precision of sampling estimates is a driving force in selecting a sampling design; however, precision is only one of the uncertainties associated with the manner in which beach water quality data are used. The amount of effort expended on enhancing precision should be guided by the nature of the decision that is being made and the context of other uncertainties associated with the decision. This chapter describes the most common applications of beach monitoring data and sources of uncertainty inherent in these decision frameworks.

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