



# Standard Guide for Selection of Resident Species as Test Organisms for Aquatic and Sediment Toxicity Tests<sup>1</sup>

This standard is issued under the fixed designation E1850; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This guide along with Guide E1192 and guidance from the U.S. Environmental Protection Agency (1,2)<sup>2</sup> covers the use of resident species in toxicity testing, particularly if site-specific information is desired. For example, in those systems where particular species are considered to be economically or aesthetically important, it might be more appropriate to utilize resident species for testing (3). For this reason, the USEPA allows development of site-specific chemical standards, using resident species, in order to reflect local conditions (1). This guide is designed to guide the selection of resident species for use as test organisms in aquatic and sediment toxicity tests. It presupposes that the user is familiar with the taxonomy of aquatic and benthic species and has some field experience.

1.2 Because toxicological information is often limited for many aquatic species, it is assumed that the majority of testing applications will be acute tests. Therefore, much of the guidance presented in this guide pertaining to the species selection process is applicable when acute toxicity testing is the desired goal. However, the principles discussed in this guide pertain to chronic toxicity test applications as well, although it should be clearly understood that such testing requires substantially greater effort, time, and resources than acute testing.

1.3 The procedures for selecting resident species in toxicity testing are necessarily general at this time because information is often lacking for specific taxa or groups of taxa. This guide attempts to give specific information when appropriate.

1.4 This guide is not intended to be inclusive. References listed provide a starting point from which to approach the literature. This guide deals solely with aquatic toxicity test situations. Terrestrial, arboreal, or atmospheric species are not considered in this guide.

1.5 This guide is arranged as follows:

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1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. All safety precautions and health-related practices are the responsibility of the user. Specific safety practices are suggested in Section 8.*

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action and is the direct responsibility of Subcommittee E50.47 on Biological Effects and Environmental Fate.

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<sup>2</sup> The boldface numbers given in parentheses refer to a list of references at the end of the text.