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Water quality - Guidance standard on interlaboratory comparison studies for ecological assessment

EESTI STANDARDIKESKUS
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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16101:2012 sisaldab Euroopa standardi EN 16101:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 16101:2012 consists of the English text of the European standard EN 16101:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.10.2012.	Date of Availability of the European standard is 03.10.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Water quality - Guidance standard on interlaboratory comparison studies for ecological assessment

Qualité de l'eau - Guide pour les études comparatives interlaboratoires ayant pour objet l'évaluation écologique

Wasserbeschaffenheit - Anleitung für Vergleichsprüfungen zwischen Laboratorien für ökologische Untersuchungen

This European Standard was approved by CEN on 25 August 2012.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 16101:2012) has been prepared by Technical Committee CEN/TC 230 “Water analysis”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

SAFETY PRECAUTIONS — Safety issues are paramount when surveying surface waters. Surveyors should conform to EU and national Health and Safety legislation and any additional guidelines appropriate for working in or near water.

The importance of data quality in ecological results is explicit in highlighted in several EU Directives. For example the EC Water Framework Directive (WFD 2000/60/EC), Annex V, Clause 1.3.4. "Estimates of the confidence and precision attained by the monitoring system used shall be stated in the river basin monitoring plan." This means that ecological data from aquatic environments should be of a known and verifiable quality. This European dimension drives regulatory agencies, research bodies, universities and contractors working across Europe to become increasingly involved in ensuring that the data produced from laboratory and field analyses is comparable and fit for purpose.

Ecological assessment techniques involve both a field and a laboratory component; each of these needs to be scientifically robust.

Implementation of interlaboratory comparison studies falls into two broad categories; interlaboratory tests designed to demonstrate comparability of data produced by laboratories which are working independently or in separate geographical regions [1] and routine procedures implemented by the laboratories as part of their operational methods.

Existing systems of interlaboratory comparison are generally not well developed for ecological assessments. By their nature the techniques used should be specific to the organism group and may not be readily transferable to other applications. This standard provides general guidance on the design of such systems.

1 Scope

This European Standard provides guidance on interlaboratory comparison with a special focus on biological methods. Guidance on the methods and procedures given in this standard should ensure that field survey results and laboratory analyses are comparable within specified limits. This guidance enables participants in interlaboratory comparison to demonstrate their level of performance. In addition it provides a mechanism for quality improvement. This standard describes a general course of the procedure. Detailed elements can be found in EN 14996, EN ISO/IEC 17000, EN ISO/IEC 17025, and EN ISO/IEC 17043.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
assigned value
value attributed to a particular property of a proficiency test item

Note 1 to entry: ISO 13528:2005, 3.3, refers to this term as ‘Value attributed to a particular quantity and accepted, sometimes by convention, as having an uncertainty appropriate for a given purpose’.

[SOURCE: EN ISO/IEC 17043:2010, 3.1, modified – Note 1 to entry has been added]

2.2
interlaboratory comparison
organisation, performance and evaluation of measurements or tests on the same or similar items by two or more laboratories in accordance with predetermined conditions

Note 1 to entry: ISO 13528:2005, 3.1, refers to this term as ‘organisation, performance and evaluation of tests on the same or similar test items by two or more laboratories in accordance with predetermined conditions’.

Note 2 to entry: The data under test may be qualitative, quantitative, continuous or discrete, and derived from laboratory analysis or field survey.

[SOURCE: EN ISO/IEC 17043:2010, 3.4, modified – Note 1 and 2 to entry have been added]

2.3
participant
laboratory, organisation or individual that receives proficiency test items and submits results for review by the proficiency testing provider

Note 1 to entry: In case of testing field survey methods, e.g. assessing hydro-morphological characteristics of water bodies, test items can by river stretches or lake shore length selected for survey by the participant.

[SOURCE: EN ISO/IEC 17043:2010, 3.6, modified – Note 1 to entry has been added]

2.4
proficiency testing
evaluation of participant performance against pre-established criteria by means of interlaboratory comparisons

Note 1 to entry: For the purposes of this International Standard, the term “proficiency testing” is taken in its widest sense and includes, but is not limited to:

a) quantitative scheme — where the objective is to quantify one or more measurands of the proficiency test item;

b) qualitative scheme — where the objective is to identify or describe one or more characteristics of the proficiency test item;