Water quality - Guidance standard for the surveying of aquatic macrophytes in running waters

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14184:2003 sisaldab Euroopa standardi EN 14184:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 14.10.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 14184:2003 consists of the English text of the European standard EN 14184:2003. This document is endorsed on 14.10.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This guidance standard defines a method for the surveying of aquatic macrophytes in running waters for the purpose of assessing the ecological status by means of these organisms, using them as quality elements.	**Scope:** This guidance standard defines a method for the surveying of aquatic macrophytes in running waters for the purpose of assessing the ecological status by means of these organisms, using them as quality elements.

ICS 13.060.70

Võtmesõnad: definitions, ecology, ecosystem, flora, guidelines, macroscopic analysis, macroscopic examination, management, policy, quality, running waters, sampling, sampling equipment, sampling methods, water, water practice, water quality, water testing

EUROPEAN STANDARD

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English version

Water quality - Guidance standard for the surveying of aquatic macrophytes in running waters

Qualité de l'eau - Guide pour l'étude des macrophytes aquatiques dans les cours d'eaux

Wasserbeschaffenheit - Anleitung für die Untersuchung aquatischer Makrophyten in Fließgewässern

This European Standard was approved by CEN on 1 August 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 14184:2003) 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 March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

WARNING — Working in or around water is inherently dangerous. Persons using this standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Macrophytes are an important component of aquatic ecosystems and can be used to facilitate the monitoring of ecological status. The requirement for the use of macrophytes in monitoring is inherent in numerous European and national directives (*e.g.* Council Directive establishing a framework for a community action in the field of water policy [Water Framework Directive "WFD"(2000/60/EC)], Urban Waste Water Treatment Directive (91/271/EEC), Nitrates Directive (91/676/EEC), Austrian Standard ÖNORM M6232, *Loi sur l'eau de 1992 (KKK), Système d'Evaluation de la Qualité des Milieux aquatiques (SEQ), etc*).

In addition to their important ecological role, the use of macrophytes as indicators of ecological quality in running waters is based on the fact that certain species and species groups are indicators for specific running water types and are adversely affected by anthropogenic impact. In certain situations the lack of macrophytes is also characteristic for certain types of running water habitats. For example, in deeper rivers macrophytes may be absent due to the habitat limitations imposed by water depth, current flow velocity, turbidity, *etc*. Therefore, the lack of macrophytes is also characteristic for certain types of running water habitats.

A wide range of sampling and survey methodologies has been developed for specific applications including conservation, drainage impact, management, ecological habitat, enhancement *etc*. The methodology of this guidance standard is recommended specifically for the surveying of macrophytes in running freshwaters, of natural and artificial character, for the purpose of monitoring ecological status. It could be used, however, as the basis for investigative monitoring of water quality or other applications.

According to the precise usage to which this European Standard is to be put, it is essential for specifiers and users to mutually agree on any necessary variations or optional procedural details prior to use.

1 Scope

This European Standard specifies a method for surveying aquatic macrophytes in running waters for the purpose of assessing ecological status, using these organisms as elements of biological quality. The information provided by this method includes the composition and abundance of the aquatic macrophyte flora.

The general principles of the approach described in this European Standard may also be applied when monitoring water bodies in the fluvial corridor of a river, such as side channels and oxbows.

It is recognised that for a complete assessment of ecological status, other elements of biological quality should also be assessed.

2 Normative references

Non applicable.

3 Terms and definitions

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

3.1
aquatic macrophytes
larger plants of fresh water which are easily seen with the naked eye, including all aquatic vascular plants, bryophytes, stoneworts (Characeae) and macro-algal growths

3.2
bank
permanent side of a river or island, which is above the normal water level and only submerged during periods of high river flow

NOTE In the context of this standard, bank species include macrophytes that overhang the channel but are rooted in the bank.

3.3
channel
the course of a river or stream

NOTE In the context of this standard, this includes only the in-stream part, *i.e.* that which is under water most of the time although it may be exposed temporarily under conditions of dry-weather flow or for longer periods under certain natural (climatic, geological) conditions.

3.4
belt transect
a defined band across a river or stream at right angles to the bank

NOTE This may be virtual or physically delineated within which the aquatic vegetation is analysed (species composition, abundance, cover).

3.5
ecological status
an expression of the quality of the structure and functioning of aquatic ecosystems, expressed by comparing the prevailing conditions with reference conditions

NOTE As classified in accordance with Annex V of the EC Water Framework Directive (2000/60/EC).