

DIN EN 16870:2017-05 (E)

Water quality - Guidance standard on determining the degree of modification of lake hydromorphology

| Contents | Page |
|--|------|
| European foreword | 4 |
| Introduction | 5 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 6 |
| 4 Principle | 10 |
| 5 Determining the hydromorphological modifications of lakes | 10 |
| 5.1 Feature categories | 10 |
| Table 1 -- Features to be assessed when determining the hydromorphological modifications of lakes | 11 |
| 5.2 Procedure for scoring | 11 |
| Table 2 -- Conversion table | 12 |
| 6 Interpreting and reporting hydromorphological modifications | 12 |
| 6.1 Modification scores | 12 |
| Table 3 -- Options, applications and procedures for reporting hydromorphological modification scores | 13 |
| 6.2 Assigning classification terms | 13 |
| Table 4 -- Classification terms for 5 classes (Score band A) | 14 |
| Table 5 -- Classification terms for 3 classes (Score band B) | 14 |
| Annex A (normative) Characterization of lake modification based on hydromorphological features | 15 |
| Table A.1 -- Characterization of lake modification based on hydromorphological features | 16 |
| Annex B (normative) Alterations to mean annual water level range | 29 |
| Table B.1 -- Alterations to mean annual water level range | 29 |
| Annex C (normative) Land cover in the lake catchment | 31 |
| Table C.1 -- Land cover in the lake catchment | 31 |
| Annex D (informative) Case study examples | 32 |
| D.1 Lago Maggiore (Italy) | 32 |
| D.1.1 Summary description | 32 |
| Figure D.1 -- Location of Lago Maggiore | 32 |
| D.1.2 Morphometric characteristics | 33 |

| | |
|---|-----------|
| Table D.1 -- Morphometric characteristics of Lago Maggiore | 33 |
| D.1.3 Degree of modification using Annex A | 33 |
| Table D.2 -- Modification scores for Lago Maggiore, using reporting option 1 | 33 |
| Table D.3 -- Modification scores for Lago Maggiore using reporting options 2, 3 and 4 | 34 |
| D.1.4 Conclusions | 34 |
| D.2 Lago Bidighinzu (Italy) | 35 |
| D.2.1 Summary description | 35 |
| Figure D.2 -- Location of Lago Bidighinzu | 35 |
| D.2.2 Morphometric characteristics | 36 |
| Table D.4 -- Morphometric characteristics of Lago Bidighinzu | 36 |
| D.2.3 Degree of modification using Annex A | 36 |
| Table D.5 -- Modification scores for Lago Bidighinzu, using reporting option 1 | 36 |
| Table D.6 -- Modification scores for Lago Bidighinzu using reporting options 2, 3 and 4 | 37 |
| D.2.4 Conclusions | 37 |
| D.3 Lake Lidzbarskie (Poland) | 38 |
| D.3.1 Summary description | 38 |
| Figure D.3 -- Location of Lake Lidzbarskie and a map of its bathymetry | 38 |
| D.3.2 Morphometric characteristics | 38 |
| Table D.7 -- Morphometric characteristics of Lake Lidzbarskie | 39 |
| D.3.3 Degree of modification using Annex A | 39 |
| Table D.8 -- Modification scores for Lake Lidzbarskie, using reporting option 1 | 39 |
| Table D.9 -- Modification scores for Lake Lidzbarskie using reporting options 2, 3 and 4 | 41 |
| D.3.4 Conclusions | 41 |
| D.4 Lake Velenje (Slovenia) | 41 |
| D.4.1 Summary description | 41 |
| Figure D.4 -- Location of Lake Velenje | 42 |
| D.4.2 Morphometric characteristics | 42 |
| Table D.10 -- Morphometric characteristics of Lake Velenje | 42 |
| D.4.3 Degree of modification using Annex A | 43 |
| Table D.11 -- Modification scores for Lake Velenje, using reporting option 1 | 43 |
| Table D.12 -- Modification scores for Lake Velenje using reporting options 2, 3 and 4 | 44 |
| D.4.4 Conclusions | 44 |
| D.5 Arkanj Lake (Serbia) | 44 |
| D.5.1 Summary description | 44 |
| D.5.2 Morphometric characteristics | 44 |
| Table D.13 -- Morphometric characteristics of Arkanj Lake | 45 |
| D.5.3 Degree of modification using Annex A | 45 |
| Table D.14 -- Modification scores for Arkanj Lake, using reporting option 1 | 46 |
| Table D.15 -- Modification scores for Arkanj Lake, using reporting options 2, 3 and 4 | 47 |
| D.5.4 Conclusions | 47 |