

# CONTENTS

|   |     |
|---|-----|
| Publisher's Note .....  | A1  |
| Optimal conservation planning of multiple hydrological ecosystem services under land use and climate changes in Teshio river watershed, northernmost of Japan<br>M. Fan (Mianyang, China and Sapporo, Japan), H. Shibata (Sapporo, Japan) and Q. Wang (Mianyang, China) .....   | 1   |
| Land use impacts on stream community composition and concordance along a natural stress gradient<br>M.J. Tolkkinen, H. Mykrä, R. Virtanen (Finland), M. Tolkkinen (Oulu, Finland), T. Kauppila (Kuopio, Finland), L. Paasivirta (Salo, Finland) and T. Muotka (Finland and Helsinki, Finland).....  | 14  |
| Leaf non-structural carbohydrates regulated by plant functional groups and climate: Evidences from a tropical to cold-temperate forest transect<br>N. Li, N. He, G. Yu, Q. Wang and J. Sun (Beijing, China) .....   | 22  |
| Remote sensing approach to detect post-fire vegetation regrowth in Siberian boreal larch forest<br>T. Chu, X. Guo (Saskatoon, Canada) and K. Takeda (Hokkaido, Japan) .....   | 32  |
| A systematic map of ecosystem services assessments around European agroforestry<br>N. Fagerholm (Fredriksberg, Denmark and Turku, Finland), M. Torralba (Fredriksberg, Denmark), P.J. Burgess (Bedfordshire, UK) and T. Plieninger (Fredriksberg, Denmark).....   | 47  |
| Oxidative stress biomarkers indicate sublethal health effects in a sentinel small mammal species, the deer mouse ( <i>Peromyscus maniculatus</i> ), on reclaimed oil sands areas<br>J. Rodríguez-Estival (Calgary, Canada), E. García-de Blas (Ciudad Real, Spain) and J.E.G. Smits (Calgary, Canada).....  | 66  |
| Prescribed moorland burning meets good practice guidelines: A monitoring case study using aerial photography in the Peak District, UK<br>K.A. Allen, P. Denelle, F.M.S. Ruiz, V.M. Santana and R.H. Marrs (Liverpool, UK).....  | 76  |
| Bioassessment in a metacommunity context: Are diatom communities structured solely by species sorting?<br>A. Vilmi, S.M. Karjalainen, S. Hellsten and J. Heino (Oulu, Finland).....   | 86  |
| A quantitative method to assess the ecological indicator system's effectiveness: a case study of the Ecological Province Construction Indicators of China<br>T. Lin (Xiamen, China), R. Gea (Xiamen, China), J. Huang (Xiamen, China), Q. Zhao (Beijing, China), J. Lin (Xiamen, China), N. Huang (Xiamen, China), G. Zhang (Xiamen, China), X. Li (Xiamen, China), H. Ye (Xiamen, China) and K. Yin (Beijing, China) ..... | 95  |
| A survey method for assessing the richness of epiphytic lichens using growth forms<br>G. Aragón (Móstoles, Spain), R. Belinchón (Uppsala, Sweden), I. Martínez and M. Prieto (Móstoles, Spain) ...  | 101 |
| Algal assemblage responses to acid mine drainage and steel plant wastewater effluent up and downstream of pre and post wetland rehabilitation<br>P.J. Oberholster (Stellenbosch, South Africa), A.R. De Klerk (Stellenbosch, South Africa and Pretoria, South Africa), L. De Klerk (Pretoria, South Africa), J. Chamier and A.-M. Botha (Stellenbosch, South Africa).....   | 106 |
| Emergy and end-point impact assessment of agricultural and food production in the United States: A supply chain-linked Ecologically-based Life Cycle Assessment<br>Y.S. Park (Fargo, ND, USA), G. Egilmez (West Haven, CT, USA) and M. Kucukvar (Istanbul, Turkey).....   | 117 |
| Moss and vascular plant indices in Ohio wetlands have similar environmental predictors<br>M.A. Stapanian (Sandusky, OH, USA), W. Schumacher, B. Gara (Groveport, OH, USA), J.V. Adams (Ann Arbor, MI, USA) and N. Viau (Groveport, OH, USA).....  | 138 |

|   |     |
|---|-----|
| The use of environmental DNA of fishes as an efficient method of determining habitat connectivity<br>H. Yamanaka (Otsu, Japan and Kawaguchi, Japan) and T. Minamoto (Kawaguchi, Japan and Nada-ku, Japan) . . . .   | 147 |
| Crustaceans as ecological indicators of metropolitan sandy beaches health<br>R.S. Cardoso, C.A.M. Barboza, V.B. Skinner and T.M.B. Cabrini (Brazil) . . . . .   | 154 |
| International inequality of environmental pressures: Decomposition and comparative analysis<br>J. Teixidó-Figueras (Florence, Italy and Reus, Spain), J.K. Steinberger (Leeds, UK), F. Krausmann,<br>H. Haberl (Wien, Austria), T. Wiedmann (Sydney, Australia), G.P. Peters (Oslo, Norway), J.A. Duro (Reus, Spain)<br>and T. Kastner (Wien, Austria) . . . . .  | 163 |
| Approaches of climate factors affecting the spatial variation of annual gross primary productivity among terrestrial<br>ecosystems in China<br>X.-J. Zhu, G.-R. Yu, Q.-F. Wang, Y.-N. Gao, H.-L. He, H. Zheng, Z. Chen, P.-L. Shi (Beijing, China), L. Zhao,<br>Y.-N. Li (Xining, China), Y.-F. Wang (Beijing, China), Y.-P. Zhang (Menglun, China), J.-H. Yan (Guangzhou, China),<br>H.-M. Wang, F.-H. Zhao (Beijing, China) and J.-H. Zhang (Shenyang, China) . . . . . | 174 |
| Lake macroinvertebrate assemblages and relationship with natural environment and tourism stress in Jiuzhaigou<br>Natural Reserve, China<br>Y. Cao (USA), B. Wang, J. Zhang (China), L. Wang, Y. Pan (MI, USA and OR, USA), Q. Wang (China), D. Jian (Sichuan,<br>China) and G. Deng (Sichuan, China and USA) . . . . .  | 182 |
| The ecological condition of geographically isolated wetlands in the southeastern United States: The relationship<br>between landscape level assessments and macrophyte assemblages<br>O.S. Stuber (Athens, GA, USA), L.K. Kirkman (Newton, GA, USA), J. Hepinstall-Cymerman and G.I. Martin (Athens,<br>GA, USA) . . . . .  | 191 |
| Qualitative models of complex sustainability systems using integrations of equations and equationless knowledge<br>items generated by several experts<br>M. Dohnal and A. Kocmanova (Brno, Czech Republic) . . . . .  | 201 |
| Indicators for green spaces in contrasting urban settings<br>F. de la Barrera, S. Reyes-Paecke (Macul, Chile) and E. Banzhaf (Leipzig, Germany) . . . . .   | 212 |
| Renewability and emergy footprint at different spatial scales for innovative food systems in Europe<br>C. Wright and H. Østergård (Kgs. Lyngby, Denmark) . . . . .  | 220 |
| The use of <i>Cerastoderma glaucum</i> as a sentinel and bioindicator species: Take-home message<br>C. Velez, A. Pires, L. Sampaio, P. Cardoso, A. Moreira (Aveiro, Portugal), S. Leandro (Peniche, Portugal), E. Figueira,<br>A.M.V.M. Soares and R. Freitas (Aveiro, Portugal) . . . . .  | 228 |
| Propiconazole induced toxicological alterations in brain of freshwater fish <i>Channa punctata</i> Bloch<br>H. Tabassum, J. Khan, Mohd. Salman, S. Raisuddin and S. Parvez (New Delhi, India) . . . . .   | 242 |
| Impact of urbanization on pollution-related agricultural input intensity in Hubei, China<br>H. You (Hangzhou, China) . . . . .  | 249 |
| Are predators negative or positive predictors of farmland bird species community on a large geographical scale?<br>J.Z. Kosicki (Prešov, Slovakia and Poznań, Poland), P. Zduniak, M. Ostrowska (Poznań, Poland) and M. Hromada<br>(Prešov, Slovakia and Zielona Góra, Poland) . . . . .  | 259 |
| Assessing species' habitat associations from occurrence records, standardised monitoring data and expert opinion:<br>A test with British butterflies<br>J.W. Redhead (Wallingford, UK and Reading, UK), R. Fox, T. Brereton (Wareham, UK) and T.H. Oliver (Wallingford,<br>UK and Reading, UK) . . . . .  | 271 |
| Modeling grassland aboveground biomass using a pure vegetation index<br>F. Li (Nanjing, China and Beijing, China), Y. Zeng (Beijing, China), J. Luo, R. Ma (Nanjing, China) and B. Wu (Beijing,<br>China) . . . . .   | 279 |
| Assessing landscape eco-risk associated with hilly construction land exploitation in the southwest of China: Trade-<br>off and adaptation<br>Y. Liu, J. Peng, T. Zhang and M. Zhao (Beijing, China) . . . . .   | 289 |
| Assessment of climatic indices limiting rainfed wheat yield<br>M. Mousavi-Baygi, M. Bannayan, B. Ashraf and E. AsadiOskuei (Mashhad, Iran) . . . . .  | 298 |
| Identifying functional species pool of planktonic protozoa for discriminating water quality status in marine<br>ecosystems<br>H. Xu, Y. Jiang and G. Xu (Qingdao, China) . . . . .  | 306 |
| Are diatom-based biotic indices developed in eutrophic, organically enriched waters reliable monitoring metrics in<br>clean waters?<br>T. Bere (Chinhoyi, Zimbabwe) . . . . .   | 312 |
| Vulnerability to climate warming and acclimation capacity of tropical and temperate coastal organisms<br>C. Vinagre, I. Leal, V. Mendonça (Lisboa, Portugal), D. Madeira (Caparica, Portugal), L. Narciso (Lisboa, Portugal),<br>M.S. Diniz (Caparica, Portugal) and A.A.V. Flores (São Sebastião, Brazil) . . . . .  | 317 |
| A new method for ageing wild boar using dental measures<br>P. Gonçalves (Cáceres, Spain), D. Risco (Cáceres, Spain and Aveiro, Portugal), P. Fernández-Llario (Cáceres,<br>Spain), O. Barquero-Pérez (Fuenlabrada (Madrid), Spain), E. Serrano (Aveiro, Portugal and Bellaterra, Spain),<br>J. Hermoso-de-Mendoza and C. Mateos (Cáceres, Spain) . . . . .  | 328 |