



## Documents

Tomaškinová, J.<sup>a</sup>, Tomaškin, J.<sup>b</sup>, Theuma, H.<sup>c</sup>, Alcántara Valero, A.F.<sup>d</sup>, Attard, V.<sup>c</sup>

### **Addressing present challenges in the life-cycle of wetlands management to successfully integrate sustainability and good governance**

(2021) *Journal of Environmental Engineering and Landscape Management*, 29 (1), pp. 48-60.

**DOI:** 10.3846/jeelm.2021.14142

<sup>a</sup> Institute of Applied Sciences, Malta College of Arts, Science & Technology, Triq Kordin, Paola, PLA9032, Malta

<sup>b</sup> Department of Environment, Faculty of Natural Science, Matej Bel University, Tajovskeho 40, Banská Bystrica, 97404, Slovakia

<sup>c</sup> Nature Trust-FEE Malta, Wied Gollieqa Environment Centre, University of Malta, Lower Level, Car Park 1, Msida, Malta

<sup>d</sup> Corporate Development Department, IUCN Center for Mediterranean Cooperation, Technological Park of Andalusia. C. Marie Curie, 22, Campanillas, Malaga, 29590, Spain

#### **Abstract**

The assessment of management effectiveness during the whole life-cycle process of protected areas (PAs) has become increasingly important, due to the lack of holistic background assessment work on management processes leading to a deeper knowledge of sustainable development (SD) principles. This paper aims to serve as a practical guide through a gradation model of integrated protected area management (IPAM) by carrying out an exhaustive trans-dimensional assessment of management effectiveness, identifying a critical field of activities and developing a framework mix of strategic recommendations leading to the implementation of an effective planning process. Our results could aid in the prioritisation of key decisions towards a more in-depth understanding of how to set up a balanced IPAM, as well as to enable managers and decision-makers to focus on activities that can further pre-established aims and reach the goal of five-dimensional sustainability in terms of SD and good governance. © 2021 The Author(s). Published by Vilnius Gediminas Technical University.

#### **Author Keywords**

Governance; Life-cycle assessment; Participation; Protected area; Sustainability; Wetland

#### **Index Keywords**

Conservation, Decision making, Environmental protection, Sustainable development; Effective planning, Good governances, In-depth understanding, Integrate sustainability, Management effectiveness, Management process, Protected area management, Whole life cycles; Life cycle

#### **Funding details**

Horizon 2020 Framework ProgrammeH2020809988

Judita Tomaskinova acknowledges funding from the ReNature project. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 809988. We would like to thank anonymous reviewers for input which has improved the manuscript.

#### **References**

- Appleton, M. R.  
(2016) *A global register of competences for protected area practitioners*, IUCN
- Balzan, M. V., Caruana, J., Zammit, A.  
**Assessing the capacity and flow of ecosystem services in multifunctional landscapes: Evidence of a rural-urban gradient in a Mediterranean small island state**  
(2018) *Land Use Policy*, 75, pp. 711-725.
- Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B., Pathak Broome, N., Phillips, A., Sandwith, T.  
**Governance of protected areas: From understanding to action**  
(2013), Best practice protected area guidelines serie 20. IUCN

- Cirtina, D., Gamaneci, G.  
**Study regarding the elaboration of certain management measures of the protected area Oltet Gorges, Gorj Country – a premise of the sustainable development**  
(2015) *Journal of Environmental Protection and Ecology*, 16 (2), pp. 667-675.
- Cohen-Shacham, E., Walters, G., Janzen, C., Maginnis, S.  
**Nature-based solutions to address global societal challenges**  
(2016),  
IUCN
- (2020) *Aichi Biodiversity Targets*,  
Convention on Biological Diversity
- Cramer, W., Guiot, J., Fader, M., Garrabou, J., Gattuso, J.-P., Iglesias, A., Lange, M. A., Xo- plaki, E.  
**Climate change and interconnected risks to sustainable development in the Mediterranean**  
(2018) *Nature Climate Change*, 8, pp. 972-980.
- Danilina, N. R., Kopylova, S. L.  
(2011) *Protected area staff training: Guidelines for planning and management*,  
(Eds) IUCN
- De Groot, R. S., Alkemade, R., Braat, L., Hein, L., Willemen, L.  
**Challenges in integrating the concept of ecosystem services and values in landscape planning, management and decision-making**  
(2010) *Ecological Complexity*, 7 (3), pp. 260-272.
- Diaz, S., Demissew, S., Joly, C., Lonsdale, W. M., Larigauderie, A.  
**A Rosetta Stone for nature's benefits to people**  
(2015) *PLoS Biology*, 13 (1), p. e1002040.
- Dudley, N.  
**Guidelines for applying protected area management categories**  
(2013), Best practice protected area guidelines serie 21. IUCN
- Dudley, N., Ali, N., MacKinnon, K.  
**Protected areas helping to meet the sustainable development goals**  
(2017) *Parks*, 23 (2), pp. 9-12.
- Dudley, N., Burlando, C., Cooney, R., Jones, S., Kehaulani Watson, T.  
**Draft principles for justice and equity in distribution of benefits from ecosystem services in protected areas**  
(2016) *Policy matters. Issue 20: From solutions to resolutions: A new social compact for just and effective conservation of biodiversity*, pp. 41-54.  
C. Burlando, A. Te P. Mead, M. M. Noshirwani, C. Seagle, & T. Kehaulani Watson (Eds),  
–). CEESP, IUCN
- (2020) *Action C. 13: Restoration of one of the coastal wetlands*,  
Energy & Water Agency
- (2014) *Il-Ballut ta' Marsaxlokk: Natura 2000 Management Plan (SAC)*,  
ERA. (a). Epsilon International SA Adi Associates Environmental Consultants Ltd  
Consortium, Malta
- (2014) *L-Inħawi tal-Għadira: Natura 2000 Management Plan (SAC)*,  
ERA. (b). Epsilon International SA Adi Associates Environmental Consultants Ltd  
Consortium, Malta

- **Biodiversity**

(2018) *State of the environment report 2018*, ERA. (Reporting status from 2009 to 2015)

- Erg, B., Groves, C., McKinney, M., Michel, T. R., Phillips, A., Schoon, M. L., Vasilijevic, M., Zunckel, K.

**Trans-boundary conservation: A systematic and integrated approach**

(2015) *Best practice protected area guidelines series*, 23. IUCN

- Ervin, J., Sekhran, N., Dinu, A., Gidda, S., Vergeichik, M., Mee, J. (2010) *Protected areas for the 21<sup>st</sup> century: Lessons from UNDP/GEF's portfolio*, United Nations Development Programme and Convention on Biological Diversity

- (2008) *Environmental signals 2000*, European Environment Agency. (Environmental assessment report No 6)

- (2018) *Natura 2000: Birds and Habitats Directives*, European Environment Agency. Malta

- (2020) *N2K MT0000014 dataforms*, European Environment Agency. (a)

- (2020) *N2K MT0000015 dataforms*, European Environment Agency. (b)

- (2020) *Site factsheet for Il-Ballut ta' Marsaxlokk*, European Environment Agency. (c). EUNIS

- (2020), Eurostat. First population estimates: EU population up to nearly 513 million on 1 January 2018

- Figgis, P., Mackey, B., Fitzsimons, J., Irving, J., Clarke, P. (2015) *Valuing nature: Protected areas and ecosystem services*, (Eds). Australian Committee for IUCN

- Forzieri, G., Cescatti, A., Silva, F. B., Feyen, L.

**Increasing risk over time of weather-related hazards to the European population: A data-driven prognostic study**

(2017) *The Lancet Planetary Health*, 1 (5), pp. e200-e208.

- Geijzendorffer, I. R., Beltrame, C., Chazee, L., Gaget, E., Galewski, T., Guelmami, A., Perennou, C., Grillas, P.

**A more effective Ramsar Convention for the conservation of Mediterranean wetlands**

(2019) *Frontiers in Ecology and Evolution*, 7 (21), pp. 1-6.

- Getzner, M., Jungmeier, M., Pfleger, B.

**Evaluating management effectiveness of national parks as a contribution to good governance and social learning**

(2012) *Protected area management*, pp. 129-148.

B. Sladonija (Ed), --. IntechOpen

- Gokce, D.

**Introductory chapter: Wetland importance and management**

(2019) *Wetlands management – Assessing risk and sustainable solutions*, pp. 3-10.

D. Gokce (Ed), --. IntechOpen

- Golumbeanu, M., Spinu, A. D., Zaharia, T., Mateescu, R., Nenciu, M. I., Enciu, E., Vlasceanu, L., Costache, M.  
**Coastal sustainability indicators for the Romania Black Sea coast**  
(2019) *Journal of Environmental Protection and Ecology*, 20 (4), pp. 1831-1841.
- Gross, J. E., Woodley, S., Welling, L. A., Watson, J. E. M.  
(2016) *Best practice protected area guidelines series. No. 24: Adapting to climate change: Guidance for protected area managers and planners*, (Eds) IUCN
- (2020) *IUCN Green list of protected and conserved areas: The global standards for protected areas in the 21<sup>st</sup> century*, IUCN. (a)
- **The promise of Sydney**  
(2020) *IUCN World Parks Congress*, IUCN. (b) IUCN
- Jungmeier, M.  
**In transit towards a third generation of protected areas? Concepts, principles and activities in the integrated management of protected areas**  
(2014) *International Journal of Sustainable Society*, 6, pp. 1-17.  
(1/2)
- Egner, H., Jungmeier, M.  
(2014) *Parks 3.0 – Protected areas for a next society*, (Eds). Verlag Johannes Heyn
- Lordkipanidze, M., Bressers, H., Lulofs, K.  
**Governance assessment of a protected area: The case of the Alde Feanen National Park**  
(2019) *Journal of Environmental Planning and Management*, 62 (4), pp. 647-670.
- (2014) *Fifth national report on the implementation of the convention on biological diversity*, Malta Environment and Planning Authority
- Mayer, R., Plank, C., Plank, B., Bohner, A., Sărățeanu, V., Samfira, I., Moisuc, A., Başcău, F.  
**BE-NATUR: Transnational management of Natura 2000 sites**  
(2012) *Protected area management*, B. Sladonija (Ed), IntechOpen
- (2018) *Mediterranean Wetland Outlook 2: Solutions for sustainable Mediterranean Wetlands*, Mediterranean Wetlands Initiative. Tour Du Valat
- Mittermeier, R. A., Turner, W. R., Larsen, F. W., Brooks, T. M., Gascon, C.  
**Global biodiversity conservation: The critical role of hotspots**  
(2011) *Biodiversity hotspots*, pp. 3-22.  
F. E. Zachos & J. C. Habel (Eds), --. Springer
- (2020) *Island wetlands of Malta*, Nature Trust FEE Malta
- Pham-Truffert, M., Metz, F., Fischer, M., Rueff, H., Messerli, P.  
**Interactions among Sustainable Development Goals: Knowledge for identifying multipliers and virtuous cycles**  
(2020) *Sustainable Development*, 28 (5), pp. 1236-1250.

- Ramírez, F., Rodríguez, C., Seoane, J., Figuerola, J., Busta-mante, J.  
**How will climate change affect endangered Mediterranean waterbirds?**  
(2018) *PLoS ONE*, 13 (2), p. e0192702.
- (2018) *Global Wetland Outlook: State of the world's wetlands and their services to people 2018*,  
Ramsar Convention on Wetlands. Ramsar Convention Secretariat
- (2010) *Designating Ramsar Sites: Strategic framework and guidelines for the future development of the List of Wetlands of International Importance. Ramsar handbooks for the wise use of wetlands*, 17.  
Ramsar Convention Secretariat. (a). (4<sup>th</sup> ed., Ramsar Convention Secretariat
- (2010) *International cooperation: Guidelines and other support for international cooperation under the Ramsar Convention on wetlands. Ramsar handbooks for the wise use of wetlands*, 20.  
Ramsar Convention Secretariat. (b). (4<sup>th</sup> ed., Ramsar Convention Secretariat
- **Resolution IX.1 Annex A: A conceptual framework for the wise use of wetlands and the maintenance of their ecological character**  
(2005) *9th Meeting of the Conference of the Parties to the Convention on Wetlands (Ramsar, Iran, 1971)*,  
Ramsar Convention. (November 8–15) 8–15 November 2005, Kampala, Uganda
- (2020) *Annotated list of wetlands of international importance Malta*,  
Ramsar Sites Information Service
- Smardon, R.  
**International wetlands policy and management issues**  
(2015) *National Wetlands Newsletter*, 37 (3), pp. 10-16.
- Stringer, L., Paavola, J.  
**Participation in environmental conservation and protected area management in Romania: A review of three case studies**  
(2013) *Environmental Conservation*, 40 (2), pp. 138-146.
- Surkin, J.  
(2011) *Natural resource governance, empowerment and poverty reduction: Learning from practice*,  
IUCN
- Tomaskinova, J., Tomaskin, J.  
**Life-cycle assessment of the Nature and History Park II-Majjistral (Malta, EU)**  
(2018) *Journal of Environmental Protection and Ecology*, 19 (1), pp. 236-243.
- Tomaškinová, J., Tomaškin, J., Soporská, P.  
**Ecosystem services and recreational values as building blocks for eco development in NATURA 2000 sites**  
(2019) *Polish Journal of Environmental Studies*, 28 (3), pp. 1925-1932.
- (2020) *Our activity report just came out*,  
Tour Du Valat
- (2020) *Global Partnership on Aichi Target 11*,  
UNEP-WCMC. (a)
- (2020) *Global database on protected areas management effectiveness*,  
UNEP-WCMC. (b, July 31). UNEP, IUCN

- Woodley, S., Bertzky, B., Crawhall, N., Dudley, N., Londono, J. M., MacKinnon, K., Redford, K., Sandwith, T.  
**Meeting Aichi Target 11: What does success looks like for protected area systems?**  
(2012) *Parks*, 18 (1), pp. 23-36.
- Worboys, G. L., Lockwood, M., Kothari, A., Feary, S., Pulsford, I.  
(2015) *Protected area governance and management*,  
(Eds) ANU Press
- (2020) *World Development Indicators: Population density*,  
World Bank. (a)
- (2020) *Terrestrial protected areas (% of total land area) – Malta*,  
World Bank. (b)
- Young, J. C., Thompson, D. B. A., Moore, P., MacGugan, A., Watt, A., Redpath, S. M.  
**A conflict management tool for conservation agencies**  
(2016) *Journal of Applied Ecology*, 53 (3), pp. 705-711.
- Zawilińska, B.  
**Residents' attitudes towards a national park under conditions of suburbanisation and tourism pressure: A case study of Ojców National Park (Poland)**  
(2020) *European Countryside*, 12 (1), pp. 119-137.

**Correspondence Address**

Tomaskinova J.; Institute of Applied Sciences, Triq Kordin, Malta; email: tomaskinova@gmail.com

**Publisher:** VGTU

**ISSN:** 16486897

**Language of Original Document:** English

**Abbreviated Source Title:** J. Environ. Eng. Landsc. Manage.

2-s2.0-85102742616

**Document Type:** Article

**Publication Stage:** Final

**Source:** Scopus

---

**ELSEVIER**

Copyright © 2021 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

 RELX Group™