

# **List of publications**

**Prof Dr Marco Heurich**

1. Web of Science publications (207)
2. Other peer-review journals (36)
3. Books, book chapters (22)
4. Professional journals (37)
5. Conference proceedings (Full Paper) (15)
6. Popular articles (32)
7. Conference proceedings (Abstracts) (108)

## 1 WEB OF SCIENCE PUBLICATIONS

1. Bergvall, U.A., Morellet, N., Kjellander, P., Rauset, G.R., De Goeve, J., Borowik, T., Brieger, F., Gehr, B., Heurich, M., Hewison, A.J.M.; et al. Settle Down! Ranging Behaviour Responses of Roe Deer to Different Capture and Release Methods. *Animals* 2021, 11, 3299. <https://doi.org/10.3390/ani1113299>
2. Passoni, G., Coulson, T., Ranc, N., Corradini, A., Hewison, A.J.M., Ciuti, S., Gehr, B., Heurich, M., Brieger, F., Sandfort, R., Mysterud, A., Balkenhol, N., Cagnacci, F. (2021). Roads constrain movement across behavioural processes in a partially migratory ungulate. *Movement Ecology*, 9, 57
3. Hummel, C.A., Mellink, Y.A.M., Bienfait, L.J., Adamescu, M.C., Cazacu, C., Heurich, M., Medina, F.M., Morkūnė, R., Švajda, J., Hummel, H. (2021). A practical novel assessment tool for the socio-ecological condition of Protected Areas: The Protection Level Index (PLI). *Journal for Nature Conservation*, 64, 126065
4. Liu, J., Li, L., Akerblom, M., Wang, T., Skidmore, A., Zhu, X., Heurich, M. (2021). Comparative evaluation of algorithms for leaf area index estimation from digital hemispherical photography through virtual forests. *Remote Sensing*, 13(16), 3325.
5. Dupke, C., Peters, A., Morellet, N., Heurich, M. (2021). Holling meets habitat selection: functional response of large herbivores revisited. *Movement ecology*, 9(1), 1-13.
6. Auer, D., Bodesheim, P., Fiderer, C., Heurich, M., Denzler, J. (2021): Minimizing the Annotation Effort for Detecting Wildlife in Camera Trap Images with Active Learning. *Lecture Notes in Informatics* ( )
7. Latifi, H., Holzwarth, S., Skidmore, A., Brůna, J., Červenka, J., Darvishzadeh, R., Hais, M., Heiden, U., Homolová, L., Krzystek, P., Schneider, T., Starý, M., Wang, T., Müller, J., Heurich, M. (2021). A laboratory for conceiving Essential Biodiversity Variables (EBVs)—The ‘Data pool initiative for the Bohemian Forest Ecosystem’. *Methods in Ecology and Evolution*, 00, 1–11. <https://doi.org/10.1111/2041-210X.13695>
8. Buse, J., Hoenselaar, G., Langenbach, F., Schleicher, P., Twietmeyer, S., Popa, F., Heurich, M. (2021). Dung beetle richness is positively affected by the density of wild ungulate populations in forests. *Biodiversity and Conservation*, 1-17.
9. Sebastián-González, E., Morales-Reyes, Z., Botella, F., Naves-Alegre, L., Pérez-García, J. M., Mateo-Tomás, P., Olea, P. P., Moléón, M., Barbosa, J. M., Hiraldo, F., Arrondo, E., Donázar, J. A., Cortés-Avizanda, A., Selva, N., Lambertucci, S. A., Bhattacharjee, A., Brewer, A. L., Abernethy, E. F., Turner, K. L., Beasley, J. C., DeVault, T. L., Gerke, H. C., Rhodes, O. E., Ordiz, A., Wikenros, C., Zimmermann, B., Wabakken, P., Wilmers, C. C., Smith, J. A., Kendall, C. J., Ogada, D., Frehner, E., Allen, M. L., Wittmer, H. U., Butler, J. R. A., du Toit, J. T., Margalida, A., Oliva-Vidal, P., Wilson, D., Jerina, K., Krofel, M., Kostecke, R., Inger, R., Per, E., Ayhan, Y., Sancı, M., Yilmazer, Ü., Inagaki, A., Koike, S., Samson, A., Perrig, P. L., Spencer, E. E., Newsome, T. M., Heurich, M., Anadón, J. D., Buechley, E. R., Gutiérrez-Cánovas, C., Elbroch, L. M., and Sánchez-Zapata, J. A.. 2021. Functional traits driving species role in the structure of terrestrial vertebrate scavenger networks. *Ecology* 102 (12) 2021, e03519
10. Bödeker, K., Ammer, C., Knoke, T., Heurich, M. (2021). Determining Statistically Robust Changes in Ungulate Browsing Pressure as a Basis for Adaptive Wildlife Management. *Forests*, 12(8), 1030. <https://doi.org/10.3390/f12081030>

11. Zong, X., Wang, T., Skidmore, A. K., Heurich, M. (2021). Estimating fine-scale visibility in a temperate forest landscape using airborne laser scanning. International Journal of Applied Earth Observation and Geoinformation, 103, 102478. <https://doi.org/10.1016/j.jag.2021.102478>
12. Yu, H., Wang, T., Skidmore, A., Heurich, M., Bässler, C. (2021). The critical role of tree species and human disturbance in determining the macrofungal diversity in Europe. Global Ecology and Biogeography, 30(10), 2084-2100.
13. Bastianelli, M., Premier, J., Anile, S., Streif, S., Krannich, A., Dietz, M., Simon, O., Severon, A., Herrmann, S., Pontieri, D., Germain, E., Poullek, M-L., Hupe, K., Jerosch, S., Götz, M., Trinzen, M., Monterroso, P., Ballesteros-Duperón, E., Gil-Sánchez, J.M., Bareá-Azcón, J.M., Moléon, M., Janssen, R., Dekker, J., Biróv, Z., Kümmerle, T., Bizzarri, L., Sforzi, A., Ferreras, P., Urra, F., María López-Martínc, J.M., Díaz-Ruizé, F., Heurich, M. (2021): Human-caused mortality shapes the survival of European wildcat (*Felis silvestris*) across Europe. Biological Conservation. 261, 109239 <https://doi.org/10.1016/j.biocon.2021.109239>
14. Palmero, S., Belotti, E., Bufka, L., Gahbauer, M., Heibl, C., Premier, J., ... & Heurich, M. (2021). Demography of a Eurasian lynx (*Lynx lynx*) population within a strictly protected area in Central Europe. Scientific reports, 11(1), 1-12. <https://doi.org/10.1038/s41598-021-99337-2>
15. von Hoermann, C., Lackner, T., Sommer, D., Heurich, M., Benbow, M. E., & Müller, J. (2021). Carcasses at Fixed Locations Host a Higher Diversity of Necrophilous Beetles. Insects, 12(5), 412. <https://doi.org/10.3390/insects12050412>
16. Kauffman, M.J., Cagnacci, F., Chamaillé-Jammes, S., Hebblewhite, M., Hopcraft, J.G.C., Merkle, J.A., Mueller, T., Mysterud, A., Peters, W., Roettger, C., Steingisser, A., Meacham, J.E., Abera, K., Adamczewski, J., Aikens, E.O., Bartlam-Brooks, H., Bennett, E., Berger, J., Boyd, C., Côté, S.D., Debeffe, L., Dekrout, A.S., Dejid, N., Donadio, E., Dziba, L., Fagan, W.F., Fischer, C., Focardi, S., Fryxell, J.M., Fynn, R.W.S., Geremia, C., González, B.A., Gunn, A., Gurarie, E., Heurich, M., Hilty, J., Hurley, M., Johnson, A., Joly, K., Kaczensky, P., Kendall, C.J., Kochkarev, P., Kolpaschikov, L., Kowalczyk, R., Langevelde, F.v., Li, B.V., Lobora, A.L., Loison, A., Madiri, T.H., Mallon, D., Marchand, P., Medellin, R.A., Meisingset, E., Merrill, E., Middleton, A.D., Monteith, K.L., Morjan, M., Morrison, T.A., Mumme, S., Naidoo, R., Novaro, A., Ogutu, J.O., Olson, K.A., Oteng-Yeboah, A., Ovejero, R.J.A., Owen-Smith, N., Paasivaara, A., Packer, C., Panchenko, D., Pedrotti, L., Plumptre, A.J., Rolandsen, C.M., Said, S., Salemgareyev, A., Savchenko, A., Savchenko, P., Sawyer, H., Selebatso, M., Skroch, M., Solberg, E., Stabach, J.A., Strand, O., Suitor, M.J., Tachiki, Y., Trainor, A., Tshipa, A., Virani, M.Z., Vynne, C., Ward, S., Wittemyer, G., Xu, W., & Zuther, S. (2021). Mapping out a future for ungulate migrations. Science, 372, 566-569
17. Risely, A., Gillingham, M. A., Béchet, A., Brändel, S., Heni, A. C., Heurich, M., Sebastian Menke, Manser, M. B., Tschapka, M., Wasimuddin, Sommer, S. (2021). Phylogeny-and abundance-based metrics allow for the consistent comparison of core gut microbiome diversity indices across host species. Frontiers in microbiology, 12. doi: 10.3389/fmicb.2021.659918
18. van Beeck Calkoen, S. T., Kreikenbohm, R., Kuijper, D. P., Heurich, M. (2021). Olfactory cues of large carnivores modify red deer behavior and browsing intensity. Behavioral Ecology, 32(5), 982-992. <https://doi.org/10.1093/beheco/arab071>

19. Janík, T., Peters, W., Šálek, M., Romportl, D., Jirků, M., Engleder, T., Ernst, M., Neudert, J., Heurich, M. (2021). The declining occurrence of moose (*Alces alces*) at the southernmost edge of its range raise conservation concerns. *Ecology and Evolution*, 00: 1– 16. <https://doi.org/10.1002/ece3.7441>
20. Ali, A.M., Abdullah, H., Darvishzadeh, R., Skidmore, A.K., Heurich, M., Roeoesli, C., Paganini, M., Heiden, U., Marshall, D. (2021). Canopy chlorophyll content retrieved from time series remote sensing data as a proxy for detecting bark beetle infestation. *Remote Sensing Applications: Society and Environment*, 22, 100524
21. Skidmore, A.K., Coops, N.C., Neinavaz, E., Ali, A., Schaepman, M.E., Paganini, M., Kissling, W.D., Vihervaara, P., Darvishzadeh, R., Feilhauer, H., Fernandez, M., Fernández, N., Gorelick, N., Geijzendorffer, I., Heiden, U., Heurich, M., Hoborn, D., Holzwarth, S., Muller-Karger, F.E., Van De Kerchove, R., Lausch, A., Leitão, P.J., Lock, M.C., Mücher, C.A., O'Connor, B., Rocchini, D., Roeoesli, C., Turner, W., Vis, J.K., Wang, T., Wegmann, M., Wingate, V. (2021). Priority list of biodiversity metrics to observe from space. *Nature Ecology & Evolution*, 5, 896-906
22. Hewison, A.J.M., Gaillard, J.-M., Morellet, N., Cagnacci, F., Debeffe, L., Cargnelutti, B., Gehr, B., Kröschel, M., Heurich, M., Coulon, A., Kjellander, P., Börger, L., Focardi, S. (2021). Sex differences in condition dependence of natal dispersal in a large herbivore: dispersal propensity and distance are decoupled. *Proceedings of the Royal Society B: Biological Sciences*, 288, 20202947
23. Fillä, M., Lama, R.P., Ghale, T.R., Signer, J., Fillä, T., Aryal, R.R., Heurich, M., Waltert, M., Balkenhol, N., Khorozyan, I. (2021): In the shadows of snow leopards and the Himalayas: density and habitat selection of blue sheep in Manang, Nepal. *Ecology and Evolution* doi.org/10.1002/ece3.6959
24. Sommerfeld, A., Rammer, W., Heurich, M., Hilmers, T., Müller, J., Seidl, R. (2021): Do bark beetle outbreaks amplify or dampen future bark beetle disturbances in Central Europe?" *Journal of Ecology*. 109(2) 737-749. doi/10.1111/1365-2745.13502
25. Oeser, J., Heurich, M., Senf, C., Pflugmacher, D., Kuemmerle, T. (2021): Satellite-based habitat monitoring reveals long-term dynamics of deer habitat in response to forest disturbances. *Ecological Applications*, e2269, <https://doi.org/10.1002/eap.2269>
26. Premier, J., Gahbauer, M., Leibl, F., Heurich, M. (2021). In situ feeding as a new management tool to conserve orphaned Eurasian lynx (*lynx lynx*). *Ecology and Evolution*, 11(7), 2963-2973.
27. Moravcová, A., Tichá, A., Carter, V. A., Vondrák, D., Čtvrtlíková, M., van Leeuwen, J. F. N., Heurich, M., Tinner, W., Kuneš, P. (2021): Mountain aquatic populations of Isoëtes species reflect millennial-scale environmental changes in the Bohemian Forest Ecosystem, Central Europe. *Holocene*, 31(5), 746-759.
28. Shi, Y., Wang, T., Skidmore, A. K., Holzwarth, S., Heiden, U., Heurich, M. (2021). Mapping individual silver fir trees using hyperspectral and LiDAR data in a Central European mixed forest. *International Journal of Applied Earth Observation and Geoinformation*, 98, 102311.
29. Dersch, S., Heurich, M., Krueger, N., Krzystek, P. (2021): Combining graph-cut clustering with object-based stem detection for tree segmentation in highly dense

airborne lidar point clouds. *ISPRS Journal of Photogrammetry and Remote Sensing*, 172, 207-222.

30. Zong, X., Wang, T., Skidmore, A.K., Heurich, M. (2021): The impact of voxel size, forest type and understory cover on visibility estimation in forests using terrestrial laser scanning. *GIScience & Remote Sensing (TGRS)*. <https://doi.org/10.1080/15481603.2021.1873588>
31. Wolff, K., Depner, B., Logan, S. A., Heurich, M. (2021): Informed conservation management of rare tree species needs knowledge of species composition, their genetic characteristics and ecological niche. *Forest Ecology and Management*, 118771.
32. Bae, S., Heidrich, L., Levick, S.R., Gossner, M.M., Seibold, S., Weisser, W.W., Magdon, P., Serebryanyk, A., Bässler, C., Schäfer, D., Schulze, E.-D., Doerfler, I., Müller, J., Jung, K., Heurich, M., Fischer, M., Roth, N., Schall, P., Boch, S., Wöllauer, S., Renner, S.C., Müller, J. (2021): Dispersal ability, trophic position and body size mediate species turnover processes: Insights from a multi-taxa and multi-scale approach. *Diversity and Distributions*, doi/full/10.1111/ddi.13204
33. Aikens, E.O., Mysterud, A., Merkle, J.A., Cagnacci, F., Rivrud, I.M., Hebblewhite, M., Hurley, M.A., Peters, W., Bergen, S., De Groeve, J., Dwinnell, S.P.H., Gehr, B., Heurich, M., Hewison, A.J.M., Jarnemo, A., Kjellander, P., Kröschel, M., Licoppe, A., Linnell, J.D.C., Merrill, E.H., Middleton, A.D., Morellet, N., Neufeld, L., Ortega, A.C., Parker, K.L., Pedrotti, L., Proffitt, K.M., Saïd, S., Sawyer, H., Scurlock, B.M., Signer, J., Stent, P., Šustr, P., Szkorupa, T., Monteith, K.L., Kauffman, M.J. (2020): Wave-like Patterns of Plant Phenology Determine Ungulate Movement Tactics. *Current Biology*, 30, 3444-3449.e3444
34. Wright, S. J., Heurich, M., Buchmann, C. M., Böcker, R., Schurr, F. M. (2020): The importance of individual movement and feeding behaviour for long-distance seed dispersal by red deer: a data-driven model. *Movement Ecology*, 8(1), 1-15.
35. Lausch, A., Schaeppman, M.E., Skidmore, A.K., Truckenbrodt, S.C., Hacker, J.M., Baade, J., Bannehr, L., Borg, E., Bumberger, J., Dietrich, P., Gläßer, C., Haase, D., Heurich, M., Jagdhuber, T., Jany, S., Krönert, R., Möller, M., Mollenhauer, H., Montzka, C., Pause, M., Rogass, C., Salepci, N., Schmullius, C., Schrodt, F., Schütze, C., Schweitzer, C., Selsam, P., Spengler, D., Vohland, M., Volk, M., Weber, U., Wellmann, T., Werban, U., Zacharias, S., Thiel, C. (2020): Linking the Remote Sensing of Geodiversity and Traits Relevant to Biodiversity—Part II: Geomorphology, Terrain and Surfaces. *Remote Sensing*, 12, 3690
36. Hoeppner, J. M., Skidmore, A. K., Darvishzadeh, R., Heurich, M., Chang, H. C., Gara, T. W. (2020): Mapping Canopy Chlorophyll Content in a Temperate Forest Using Airborne Hyperspectral Data. *Remote Sensing*, 12(21), 3573.
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  42. Ali, A. M., R. Darvishzadeh, A. Skidmore, T. W. Gara, M. Heurich (2020): Machine learning methods performance in radiative transfer model inversion to retrieve plant traits from Sentinel-2 data of a mixed mountain forest. International Journal of Digital Earth. 1-15.
  43. Heidrich,L., Bae, S., Levick, S., Seibold, S., Weisser, W., Krzystek, P., Magdon, P., Nauss, T., Schall, P., Serebryanyk, A., Wöllauer, S., Ammer, C., Bässler, C., Doerfler, I., Fischer, M., Gossner, M.M., Heurich, M., Hothorn, T., Jung, K., Kreft, H., Schulze, E-D., Simons,N., Thorn, S., Müller, J. (2020): Heterogeneity-diversity relationships differ between and within trophic levels in temperate forests". Nature Ecology & Evolution. (4) 204–1212.
  44. Henrich, M., Niederlechner, S., Kröschel, M., Thoma, S., Dormann, C.F., Hartig, F.; Heurich, M. (2020): The influence of camera trap flash type on the behavioural reactions and trapping rates of red deer and roe deer. Remote Sensing in Ecology and Evolution doi:10.1002/rse2.150.
  45. Stiegler, J., von Hoermann, C., Müller, J., Benbow, M. E., Heurich, M. (2020): Carcass provisioning for scavenger conservation in a temperate forest ecosystem. Ecosphere, 11(4), e03063
  46. Peláez, M., Gaillard, J. M., Bollmann, K., Heurich, M., Rehnus, M. (2020): Large scale variation in birth timing and synchrony of a large herbivore along the latitudinal and altitudinal gradients. Journal of Animal Ecology <https://doi.org/10.1111/1365-2656.13251>.
  47. Premier, J., Fickel, J., Heurich, M., Kramer-Schadt, S. (2020). The boon and bane of boldness: movement syndrome as saviour and sink for population genetic diversity. Movement Ecology, 8, 1-17.
  48. Ali, A. M., Darvishzadeh, R., Skidmore, A., Heurich, M., Paganini, M., Heiden, U., Mücher, S. (2020): Evaluating Prediction Models for Mapping Canopy Chlorophyll Content Across Biomes. Remote Sensing, 12(11), 1788.
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51. Krzystek, P., Serebryanyk, A., Schnörr, C., Červenka, J., Heurich, M. (2020): Large-Scale Mapping of Tree Species and Dead Trees in Šumava National Park and Bavarian Forest National Park Using Lidar and Multispectral Imagery. Remote Sensing, 12(4), 661.
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55. Shi, Y., Wang, T., Skidmore, A. K., Heurich, M. (2020): Improving LiDAR-based tree species mapping in Central European mixed forests using multi-temporal digital aerial colour-infrared photographs. International Journal of Applied Earth Observation and Geoinformation, 84, 101970.
56. Bonnot, N.C., Couriot, O., Berger, A., Cagnacci, F., Ciuti, S., De Goeve, J.E., Gehr, B., Heurich, M., Kjellander, P., Kröschel, M., Morellet, N., Sönnichsen, L., Hewison, A.J.M. (2020): Fear of the dark? Contrasting impacts of humans versus lynx on diel activity of roe deer across Europe. Journal of Animal Ecology, 89, 132-145
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## 2. OTHER PEER-REVIEW PUBLICATIONS

1. Ökophysiologie und Naturschutzphysiologie: Anwendung von physiologischen Konzepten, Techniken und Wissen im praktischen Naturschutz. *Naturschutz und Landschaftsplanung* (accepted)
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## 5. Conference proceedings (full papers)

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## 6. Popular articles

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13. Heurich, M., Lötker, P., Stache, A., Baierl, f. und H. Kiener (2007): Beziehungskiste Luchs und Reh. Die Pirsch 3/2007. S. 12-17.
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18. Heurich, M. und H. Kiener (2005): Quantensprung in der Luchsforchung. Die Pirsch 11/2005. S. 11.
19. Heurich M. und U. Fielitz (2004): SMS vom Rotwild. Die Pirsch 5/2004. S. 4 -7.
20. Heurich M. (2004): Abschluss der Waldinventur. Unser Wilder Wald. Nr. 16.
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26. Heurich M. (2001): Wo der Wolf jagt, wächst der Wald. Unser Wilder Wald. Nr. 10.
27. Heurich M. (2001): Rotwildforschung im Nationalpark Bayerischer Wald. Unser Wilder Wald. Nr. 9.

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32. Heurich M. (1997): Wenn der Jäger zum Gejagten wird. Modernste Elektronik im Einsatz der Wildbiologie. Die Pirsch. 3/1997. S. 6-9.

## **7. Conference proceedings (Abstracts)**

(\*very probable not complete as I am not able to keep track about all conference contributions)

1. EGU21-13342 Holocene spatio-temporal patterns of biomass burning in the Bohemian-Bavarian Forest Mountains (Central Europe) by Gabriela Florescu et al.Session BG1.1 – Fire in the Earth system: interactions with land, atmosphere and society
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