

# Publikationsverzeichnis

Prof Dr Marco Heurich

1. Web of Science Publications (266)	1
2. Other peer-review publications (42)	23
3. Books, Book chapters (22)	26
4. Professional journals (45)	29
5. Conference proceedings (Full Papers) (15)	31
6. Popular articles (32)	32

## 1. WEB OF SCIENCE PUBLICATIONS

1. Viquez-R, L., Henrich, M., Riegel, V., Bader, M., Wilhelm, K., Heurich\*, M., Sommer\*, S. (2023) \* Autors contributed equally.: Taste of Wilderness: Supplementary feeding of red deer (*Cervus elaphus*) increases individual microbiome diversity but lowers abundance of important gut symbionts. *Animal Microbiome* (accepted)
2. Bernard, M., Morin, X., Saïd, S., Boulanger, V., Granda, E., Barrere, J., Benavides, R., Jactel, H., Heurich, M., Rabasa, S.G., Valladares, F., Kunstler, G. (2023): Elevation affect both the probability of ungulate browsing and its effect on tree seedling growth. *Annals of Forest Science* (accepted)
3. van Beeck Calkoen, S. T., Kuijper, D. P., Apollonio, M., Blondel, L., Dormann, C. F., Storch, I., & Heurich, M. (2023). Numerical top-down effects on red deer (*Cervus elaphus*) are mainly shaped by humans rather than large carnivores across Europe. *Journal of Applied Ecology*. 2023;00:1–11. <https://doi.org/10.1111/1365-2664.14526>
4. Wielgus, E., Mandinyenya, B., Wieprecht, S., & Heurich, M. (2023). Bringing the Black rhino back: Key factors for reintroduction success. *Global Ecology and Conservation*, e02756. <https://doi.org/10.1016/j.gecco.2023.e02756>
5. Bacon, S., Smith, A.F., Porst, F., Stenberg, J., Bečka, P., Heurich, M. (2023): Visitors to national parks show positive attitudes towards recolonising wolves in the Bohemian Forest Ecosystem. *Biological Conservation*, 288, 110349. <https://doi.org/10.1016/j.biocon.2023.110349>
6. Zong X., Wang, T., Skidmore A.K., Heurich, M. (2023): Habitat visibility affects the behavioral response of a large herbivore to human disturbance in forest landscapes. *Journal of Environmental Management*, 348, 119244. <https://doi.org/10.1016/j.jenvman.2023.119244>
7. Oeser, J., Heurich, M., Kramer-Schadt, S., Mattisson, J., Krofel, M., Krojerová-Prokešová, J., Zimmermann, F., Anders, O., Andrén, H., Bagrade, G., Belotti, E., Breitenmoser-Würsten, C., Bufka, L., Černe, R., Drouet-Hoguet, N., Duľa, M., Fuxjäger, C., Gomerčić, T., Jędrzejewski, W., Kuemmerle, T. (2023). Integrating animal tracking datasets at a continental scale for mapping Eurasian lynx habitat. *Diversity and Distributions*, 00, 1–15. <https://doi.org/10.1111/ddi.13784>
8. van Beeck Calkoen, S., Milch, J., Kupferschmid, A.D., Fiderer, C., Heurich, M. (2023): A guide for selecting the appropriate plot design to measure ungulate browsing. *Forest Ecosystems*, 10, 100147. <https://doi.org/10.1016/j.fecs.2023.100147>
9. Palmero, S., Smith, A. F., Kudrenko, S., Gahbauer, M., Dachs, D., Weingarh-Dachs, K., Kashpei, I., Shamovich, D., Vyshnevskiy, D., Borsuk, O., Korepanova, K., Bashta, A.-T., Zhuravchak, R., Fenchuk, V., & Heurich, M. (2023): Shining a light on elusive lynx: Density estimation of three Eurasian lynx populations in Ukraine and Belarus. *Ecology and Evolution*, 13, e10688. <https://doi.org/10.1002/ece3.10688>
10. Bubnicki, J.W., Norton, B., Baskauf, S.J., Bruce, T., Cagnacci, F., Casaer, J., Churski, M., Cromsigt, J.P.G.M., Farra, S.D., Fiderer, C., Forrester, T.D., Hendry, H., Heurich, M., Hofmeester, T.R., Jansen, P.A., Kays, R., Kuijper, D.P.J., Liefting, Y., Linnell, J.D.C., Luskin, M.S., Mann, C., Milotic, T., Newman, P., Niedballa, J., Oldoni, D., Ossi, F., Robertson, T., Rovero, F., Rowcliffe, M., Seidenari, L., Stachowicz, I., Stowell, D., Tobler, M.W., Wieczorek, J., Zimmermann, F. and Desmet, P. (2023), Camtrap DP: an open standard for the FAIR exchange and archiving of camera trap data. *Remote Sens Ecol Conserv.* <https://doi.org/10.1002/rse2.374>

11. Kudrenko, S., Fenchuk, V., Vollering, J., Zedrosser, A., Selva, N., Ostapowicz, K., Beasley, J.C., Heurich, M. (2023): Walking on the dark side: Anthropogenic factors limit suitable habitat for gray wolf (*Canis lupus*) in a large natural area covering Belarus and Ukraine. *Global Ecology and Conservation* 2023, 46:e02586. <https://doi.org/10.1016/j.gecco.2023.e02586>
12. Wielgus, E., Klamm, A., Conraths, F. J., Dormann, C. F., Henrich, M., Kronthaler, F., Heurich, M. (2023): First-passage time analysis based on GPS data offers a new approach to estimate management zones for infectious diseases – a case study using the example of African swine fever. *Transboundary and Emerging Diseases*. Article ID 4024083 | <https://doi.org/10.1155/2023/4024083>
13. Henrich, M., Burgueño, M., Hoyer, J., Haucke, T., Steinhage, V., Kühl, H. S., Heurich, M. (2023). A semi-automated camera trap distance sampling approach for population density estimation. *Remote Sensing in Ecology and Conservation*. <https://doi.org/10.1002/rse2.362>
14. Khorozyan, I., Heurich, M. (2023). Where, why and how carnivores kill domestic animals in different parts of their ranges: An example of the Eurasian lynx. *Global Ecology and Conservation*, e02585. <https://doi.org/10.1016/j.gecco.2023.e02585>
15. Mitterwallner, V., Peters, A., Edelhoff, H., Mathes, G., Nguyen, H., Peters, W., Heurich, M. and Steinbauer, M.J. (2023), Automated visitor and wildlife monitoring with camera traps and machine learning. *Remote Sens Ecol Conserv*. <https://doi.org/10.1002/rse2.367>
16. Nussberger B, Barbosa S, Beaumont M, Currat M, Devillard S, Heurich M, Howard-McCombe J, Mattucci F, Nowak C, Quilodrán CS.; Senn, H., Aleves, P. (2023): A common statement on anthropogenic hybridization of the European wildcat (*Felis silvestris*). *Frontiers in Ecology and Evolution* 2023, Volume 11 <https://doi.org/10.3389/fevo.2023.1156387>
17. Kühl, H. S., Buckland, S. T., Henrich, M., Howe, E., Heurich, M. (2023). Estimating effective survey duration in camera trap distance sampling surveys. *Ecology and Evolution*, 13(10), e10599. <https://doi.org/10.1002/ece3.10599>
18. Tucker, M. A., A. M. Schipper, T. S. F. Adams, N. Attias, T. Avgar, N. L. Babic, K. J. Barker, G. Bastille-Rousseau, D. M. Behr, J. L. Belant, D. E. Beyer, N. Blaum, J. D. Blount, D. Bockmühl, R. L. Pires Boulhosa, M. B. Brown, B. Buuveibaatar, F. Cagnacci, J. M. Calabrese, R. Černe, S. Chamailé-Jammes, A. N. Chan, M. J. Chase, Y. Chaval, Y. Chenaux-Ibrahim, S. G. Cherry, D. Ćirović, E. Çoban, E. K. Cole, L. Conlee, A. Courtemanch, G. Cozzi, S. C. Davidson, D. DeBloois, N. Dejid, V. DeNicola, A. L. J. Desbiez, I. Douglas-Hamilton, D. Drake, M. Egan, J. A. J. Eikelboom, W. F. Fagan, M. J. Farmer, J. Fennessy, S. P. Finnegan, C. H. Fleming, B. Fournier, N. L. Fowler, M. G. Gantchoff, A. Garnier, B. Gehr, C. Geremia, J. R. Goheen, M. L. Hauptfleisch, M. Hebblewhite, M. Heim, A. G. Hertel, M. Heurich, A. J. M. Hewison, J. Hodson, N. Hoffman, J. G. C. Hopcraft, D. Huber, E. J. Isaac, K. Janik, M. Ježek, Ö. Johansson, N. R. Jordan, P. Kaczensky, D. N. Kamaru, M. J. Kauffman, T. M. Kautz, R. Kays, A. P. Kelly, J. Kindberg, M. Krofel, J. Kusak, C. T. Lamb, T. N. LaSharr, P. Leimgruber, H. Leitner, M. Lierz, J. D. C. Linnell, P. Lkhagvaja, R. A. Long, J. V. López-Bao, M.-C. Loretto, P. Marchand, H. Martin, L. A. Martinez, R. T. McBride, A. A. D. McLaren, E. Meisingset, J. Melzheimer, E. H. Merrill, A. D. Middleton, K. L. Monteith, S. A. Moore, B. Van Moorter, N. Morellet (2023) Behavioral responses of terrestrial mammals to COVID-19 lockdowns. *Science*, 380, 1059-1064. DOI: <https://doi.org/10.1126/science.abo6499>
19. Rietz, J., S. T. S. van Beeck Calkoen, N. Ferry, J. Schlüter, H. Wehner, K.-H. Schindlatz, T. Lackner, C. von Hoermann, F. J. Conraths, J. Müller, M. Heurich (2023) Drone-Based Thermal Imaging in the Detection of Wildlife Carcasses and Disease Management. *Transboundary and Emerging Diseases*, 2023, 5517000. <https://doi.org/10.1155/2023/5517000>

20. Mumme, S., Middleton, A. D., Ciucci, P., De Groeve, J., Corradini, A., Aikens, E. O., Ossi, F., Atwood, P., Balkenhol, N., Cole, E. K., Debeffe, L., Dewey, S. R., Fischer, C., Gude, J., Heurich, M., Hurley, M. A., Jarnemo, A., Kauffman, M. J., Licoppe, A. ... Cagnacci, F. (2023). Wherever I may roam—Human activity alters movements of red deer (*Cervus elaphus*) and elk (*Cervus canadensis*) across two continents. *Global Change Biology*, 29, 5788–5801. <https://doi.org/10.1111/gcb.16769>
21. Palmero, S., Premier, J., Kramer-Schadt, S., Monterroso, P. and Heurich, M. (2023), Sampling variables and their thresholds for the precise estimation of wild felid population density with camera traps and spatial capture–recapture methods. *Mam Rev*, 53: 223-237. <https://doi.org/10.1111/mam.12320>
22. Dersch, S., Schöttl, A., Krzystek, P., Heurich, M. (2023). Towards complete tree crown delineation by instance segmentation with mask R–CNN and DETR using UAV-based multispectral imagery and lidar data. *ISPRS Open Journal of Photogrammetry and Remote Sensing*, 100037. <https://doi.org/10.1016/j.ophoto.2023.100037>
23. König, S., F. Thonfeld, M. Förster, O. Dubovyk, M. Heurich (2023) Assessing Combinations of Landsat, Sentinel-2 and Sentinel-1 Time series for Detecting Bark Beetle Infestations. *GIScience & Remote Sensing*, 60, 2226515. DOI: <https://doi.org/10.1080/15481603.2023.2226515>
24. Oeser, J., M. Heurich, S. Kramer-Schadt, H. Andrén, G. Bagrade, E. Belotti, L. Bufka, C. Breitenmoser-Würsten, R. Černe, M. Duľa, C. Fuxjäger, T. Gomerčić, W. Jędrzejewski, R. Kont, P. Koubek, R. Kowalczyk, M. Krofel, J. Krojerová-Prokešová, J. Kubala, J. Kusak, M. Kutal, J. D. C. Linnell, J. Mattisson, A. Molinari-Jobin, P. Männil, J. Odden, H. Okarma, T. Oliveira, N. Pagon, J. Persson, J. Remm, K. Schmidt, S. Signer, B. Tám, K. Vogt, F. Zimmermann & T. Kuemmerle (2023) Prerequisites for coexistence: human pressure and refuge habitat availability shape continental-scale habitat use patterns of a large carnivore. *Landscape Ecology*, 38, 1713-1728. <https://doi.org/10.1007/s10980-023-01645-7>
25. Tourani, M., F. Franke, M. Heurich, M. Henrich, T. Peterka, C. Ebert, J. Oeser, H. Edelhoff, C. Milleret, P. Dupont, R. Bischof & W. Peters (2023) Spatial variation in red deer density in a transboundary forest ecosystem. *Scientific Reports*, 13, 4561. <https://doi.org/10.1038/s41598-023-31283-7>
26. Stefanie Döringer, Florian Porst, Lena Stumpf & Marco Heurich (2023) The Relationship between Measured Visitor Density and Perceived Crowding Revisited: Predicting Perceived Crowding in Outdoor Recreation. *Leisure Sciences*, DOI: <https://doi.org/10.1080/01490400.2023.2265366>
27. von Hoermann, C., Benbow, M. E., Rottler-Hoermann, A. M., Lackner, T., Sommer, D., Receveur, J. P., Bäessler, C., Heurich\*, M., Müller\*, J. (2023). Factors influencing carrion communities are only partially consistent with those of deadwood necromass. *Oecologia* (2023) 201:537–547. <https://doi.org/10.1007/s00442-023-05327-8> **Autors contributed equally.**
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29. Khorozyan, I, Heurich, M. (2023): Predation patterns of Eurasian lynx across its global range: ecological and conservation implications. *Mammal Reviews*. 53 (3), 177-188. <https://doi.org/10.1111/mam.12317>
30. Bluhm, H., Diserens, T. A., Engleder, T., Heising, K., Heurich, M., Janík, T., Jirků, M., Klich, D., König, H. J., Kowalczyk, R., Kuijper, D., Maślanko, W., Michler, F.-U., Neumann, W., Oeser, J., Olech, W., Perzanowski, K., Ratkiewicz, M., Romportl, D., Salek, M., Kuemmerle, T. (2023). Widespread habitat for Europe's largest herbivores, but poor

connectivity limits recolonization. *Diversity and Distributions*, 00, 1– 15.  
<https://doi.org/10.1111/ddi.13671>

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33. Zong, X., Wang, T., Skidmore, A. K., Heurich, M. (2022). LiDAR reveals a preference for intermediate visibility by a forest-dwelling ungulate species. *Journal of Animal Ecology*. DOI: 10.1111/1365-2656.13847
34. Sani-Mohammed, A., Yao, W., Heurich, M. (2022). Instance segmentation of standing dead trees in dense forest from aerial imagery using deep learning. *ISPRS Open Journal of Photogrammetry and Remote Sensing*, 6, 100024.  
<https://doi.org/10.1016/j.ophoto.2022.100024>
35. Yu, H., Wang, T., Skidmore, A., Heurich, M., Bässler, C. (2022). 50 Years of Cumulative Open-Source Data Confirm Stable and Robust Biodiversity Distribution Patterns for Macrofungi. *Journal of Fungi*, 8(9), 981. <https://doi.org/10.3390/jof8090981>
36. Smith, A. F., Ciuti, S., Shamovich, D., Fenchuk, V., Zimmermann, B., Heurich, M. (2022). Quiet islands in a world of fear: Wolves seek core zones of protected areas to escape human disturbance. *Biological Conservation*, 276, 109811.  
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37. Barta, K. A., Hais, M., Heurich, M. (2022). Characterizing forest disturbance and recovery with thermal trajectories derived from Landsat time series data. *Remote Sensing of Environment*, 282, 113274. <https://doi.org/10.1016/j.rse.2022.113274>
38. Bachmann, M. E., L. Kulik, T. Gatiso, M. R. Nielsen, D. Haase, M. Heurich, A. Buchadas, L. Bösch, D. Eirdosh, A. Freytag, J. Geldmann, A. Ghoddousi, T. C. Hicks, I. Ordaz-Németh, S. Qin, T. Sop, S. van Beeck Calkoen, K. Wesche, H. S. Kühl (2022) Analysis of differences and commonalities in wildlife hunting across the Africa-Europe South-North gradient. *PLOS Biology*, 20, e3001707.  
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39. Weiss, F., F. U. Michler, B. Gillich, J. Tillmann, S. Ciuti, M. Heurich\*, S. Rieger\* (2022) Displacement Effects of Conservation Grazing on Red Deer (*Cervus elaphus*) Spatial Behaviour. *Environmental Management* 70(5), 763-779. \* **Autors contributed equally.** <https://doi.org/10.1007/s00267-022-01697-6>
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<https://doi.org/10.1111/2041-210X.13984>
41. Mattisson, J., J. D. C. Linnell, O. Anders, E. Belotti, C. Breitenmoser-Würsten, L. Bufka, C. Fuxjäger, M. Heurich, G. Ivanov, W. Jędrzejewski, R. Kont, R. Kowalczyk, M. Krofel, D. Melovski, D. Mengüllüoğlu, T. L. Middelhoff, A. Molinari-Jobin, J. Odden, J. Ozoliņš, H. Okarma, J. Persson, K. Schmidt, K. Vogt, F. Zimmermann, Andrén H. (2022) Timing and synchrony of birth in Eurasian lynx across Europe. *Ecology and Evolution*, 12, e9147. <https://doi.org/10.1002/ece3.9147>

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43. Gatiso, T. T., L. Kulik, M. Bachmann, A. Bonn, L. Bösch, D. Eirdosh, A. Freytag, S. Hanisch, M. Heurich, T. Sop, K. Wesche, M. Winter & H. S. Kühl (2022) Effectiveness of protected areas influenced by socio-economic context. *Nature Sustainability*. <https://doi.org/10.1038/s41893-022-00932-6>
44. Oliveira, T., Carricondo-Sanchez, D., Mattisson, J., Vogt, K., Corradini, A., Linnell, J., Odden, J., Heurich, M., Rodriguez-Recio, M., Krofel, M. (2022). Predicting kill sites of an apex predator from GPS data in different multi-prey systems. *Ecological Applications*, e2778. <https://doi.org/10.1002/eap.2778>
45. Henrich M, Hartig F, Dormann CF, Kühl HS, Peters W, Franke F, Peterka T, Šustr P, Heurich M (2022): Deer Behavior Affects Density Estimates With Camera Traps, but Is Outweighed by Spatial Variability. *Front. Ecol. Evol.* 10:881502. doi: <https://doi.org/10.3389/fevo.2022.881502>
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49. Orazi, V., Hagge J, Gossner, M.M., Müller, J., Heurich, M. (2022): A biodiversity boost from the Eurasian beaver (*Castor fiber*) in Germany's oldest national park. *Frontiers in Ecology and Evolution* 10:873307. doi: <https://doi.org/10.3389/fevo.2022.873307>
50. Hummel, H., V. Kalle, L. Bienfait, Y. Boyer, M. Heurich, J. Svajda, M. Adamescu, C. Cazacu, F. M. Medina, R. Morkūnė, A. Razinkovas-Baziukas, D. Poursanidis, O. Tasevska, A. Al Malla, A. Strith, C. Rossi, S. Arenas-Castro, C. Carvalho-Santos, I. P. J. Smit, E. Valentini, A. N. Xuan, D. Orenstein, A. Provenzale, R. de Wit and C. Hummel (2022). A bottom-up practitioner-derived set of Essential Variables for Protected Area management. *Environmental and Sustainability Indicators* 14: 100179. <https://doi.org/10.1016/j.indic.2022.100179>
51. Gatiso, T. T., L. Kulik, M. Bachmann, A. Bonn, L. Bösch, A. Freytag, M. Heurich, K. Wesche, M. Winter and I. Ordaz-Németh (2022). Sustainable protected areas: Synergies

between biodiversity conservation and socioeconomic development. *People and Nature*.  
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