

10 Literaturverzeichnis

- Aas Ø., Einum S., Klemetsen A., Skurdal J. 2011. Atlantic salmon ecology. Wiley-Blackwell, Oxford. DOI: 10.1002/9781444327755
- Aerne L. 2020. Links between substrate structure, aquatic invertebrate communities and brown trout ecology: a case study within and among Swiss streams. Masterarbeit, Universität Zürich, Zürich.
- Armstrong J.D., Kemp P.S., Kennedy G.J.A., Ladle M., Milner M.J. 2003. Habitat requirements of Atlantic salmon and brown trout in rivers and streams. *Fisheries Research*, 62(2): 143–170. DOI: 10.1016/S0165-7836(02)00160-1
- BAFU (Bundesamt für Umwelt) (Hrsg.) 2005. Empfehlung. Raumplanung und Naturgefahren. *Vollzug Umwelt*, VU-7516-E, BAFU, Bern: 50 S.
- BAFU (Bundesamt für Umwelt) (Hrsg.) 2012. Erkenntnisse aus dem Projekt Integrales Flussgebietsmanagement. Merkblatt-Sammlung Wasserbau und Ökologie. *Umwelt-Wissen*, UW-1211-D, BAFU, Bern: 58 S.
- BAFU (Bundesamt für Umwelt) (Hrsg.) 2017a. Geschiebe- und Habitatsdynamik. Merkblatt-Sammlung Wasserbau und Ökologie. *Umwelt-Wissen*, UW-1708-D, BAFU, Bern: 85 S.
- BAFU (Bundesamt für Umwelt) (Hrsg.) 2017b. Aktionsplan des Bundesrates. Aktionsplan Strategie Biodiversität Schweiz BAFU, Bern: 53 S.
- BAFU (Bundesamt für Umwelt) 2018. Struktur und Morphologie der Fließgewässer. BAFU, 20.8.2018. www.bafu.admin.ch/bafu/de/home/themen/wasser/fachinformationen/zustand-der-gewaesser/zustand-der-fliessgewaesser/struktur-und-morphologie-der-fliessgewaesser.html
- BAFU (Bundesamt für Umwelt) 2021a. Bausteine für die Ökologische Infrastruktur. Technischer Bericht der Analysen von InfoSpecies.
- BAFU (Bundesamt für Umwelt) (Hrsg.) 2021b. Auswirkungen des Klimawandels auf die Schweizer Gewässer. Hydrologie, Gewässerökologie und Wasserwirtschaft. *Umwelt-Wissen*, UW-2101-D. BAFU, Bern: 134 S.
- Baptista M., Valcarcel R. 2018. Renaturalizing floodplains. *Journal of Water Resource and Protection*, 10: 533–537. DOI: 10.4236/jwarp.2018.105029
- Battisacco E., Franca M.J., Schleiss A.J. 2016. Sediment replenishment: influence of the geometrical configuration on the morphological evolution of channel-bed. *Water Resources Research*, 52(11): 8879–8894. DOI: 10.1002/2016WR019157
- Baxter C.V., Fausch K.D., Saunders W.C. 2005. Tangled webs: reciprocal flows of invertebrate prey link streams and riparian zones. *Freshwater Biology*, 50(2): 201–220. DOI: 10.1111/j.1365-2427.2004.01328.x
- Baxter R.M. 1977. Environmental effects of dams and impoundments. *Annual Review of Ecology and Systematics*, 8: 255–283. DOI: 10.1146/annurev.es.08.110177.001351
- Bo T., Fenoglio S., Malacarne G., Pessino M., Sgariboldi F. 2007. Effects of clogging on stream macroinvertebrates: an experimental approach. *Limnologica*, 37(2): 186–192. DOI: 10.1016/j.limno.2007.01.002
- Boano F., Harvey J.W., Marion A., Packman A.I., Revelli R., Ridolfi L., Wörman A. 2014. Hyporheic flow and transport processes: mechanisms, models, and biogeochemical implications. *Reviews of Geophysics*, 52(4): 603–679. DOI: 10.1002/2012RG000417
- Bollrich G. 2013. Technische Hydromechanik 1: Grundlagen (7. Auflage). Beuth Verlag GmbH, Berlin. ISBN: 9783410291695
- Breitenmoser T. 2014. Flechtenvorkommen in Grauerlenauen im Kanton Graubünden. Bachelorarbeit. ETH Zürich, Zürich.

-
- Breitenstein M., Kirchhofer A. 2010. Förderung der litho-rheophilen Fischarten der Schweiz, Factsheets zu Biologie und Förderungsmassnahmen. Im Auftrag des Bundesamts für Umwelt (BAFU), Bern: 52 S.
- Brodersen, J., Hellmann, J., Seehausen, O. 2023. Erhebung der Fischbiodiversität in Schweizer Fließgewässern. Progetto Fiumi. Schlussbericht.
- Brown B.L. 2003. Spatial heterogeneity reduces temporal variability in stream insect communities. *Ecology Letters*, 6(4): 316–325. DOI: [10.1046/j.1461-0248.2003.00431.x](https://doi.org/10.1046/j.1461-0248.2003.00431.x)
- Brunke M., Gonser T. 1997. The ecological significance of exchange processes between rivers and groundwater. *Freshwater Biology*, 37(1): 1–33. DOI: [10.1046/j.1365-2427.1997.00143.x](https://doi.org/10.1046/j.1365-2427.1997.00143.x)
- Bühlmann M., Boes R.M. 2014. Lateral flood discharge at rivers: concepts and challenges. In: Schleiss A.J., De Cesare G., Franca M.J., Pfister M. (Hrsg.). River Flow 2014: Proceedings of the 7th International Conference on Fluvial Hydraulics. Lausanne, Schweiz, 3.–5. September 2014. CRC Press, London: 1799–1806. ISBN: 9781138026742
- Burdon F.J., Harding J.S. 2008. The linkage between riparian predators and aquatic insects across a streamresource spectrum. *Freshwater Biology*, 53(2): 330–346. DOI: [10.1111/j.1365-2427.2007.01897.x](https://doi.org/10.1111/j.1365-2427.2007.01897.x)
- Buxton T.H. 2018. Flume simulations of salmon bioturbation effects on critical shear stress and bedload transport in rivers. *River Research and Applications*, 34(4): 357–371. DOI: [10.1002/rra.3250](https://doi.org/10.1002/rra.3250)
- Caponi F., Siviglia A. 2018. Numerical modeling of plant root controls on gravel bed river morphodynamics. *Geophysical Research Letters*, 45(17): 9013–9023. DOI: [10.1029/2018GL078696](https://doi.org/10.1029/2018GL078696)
- Carling P.A. 1984. Deposition of fine and coarse sand in an open-work gravel bed. *Canadian Journal of Fisheries and Aquatic Sciences*, 41(2): 263–270. DOI: [10.1139/f84-030](https://doi.org/10.1139/f84-030)
- Castro J.M., Thorne C.R. 2019. The stream evolution triangle: integrating geology, hydrology, and biology. *River Research and Applications*, 35(4): 315–326. DOI: [10.1002/rra.3421](https://doi.org/10.1002/rra.3421)
- Chari L.D., Richoux N.B., Moyo S., Villet M.H. 2020. Dietary fatty acids of spiders reveal spatial and temporal variations in aquatic-terrestrial linkages. *Food Webs* 24: e00152. DOI: [10.1016/j.fooweb.2020.e00152](https://doi.org/10.1016/j.fooweb.2020.e00152)
- Chen S., Chen B., Fath B.D. 2015. Assessing the cumulative environmental impact of hydropower construction on river systems based on energy network model. *Renewable and Sustainable Energy Reviews*, 42: 78–92. DOI: [10.1016/j.rser.2014.10.017](https://doi.org/10.1016/j.rser.2014.10.017)
- Cui Y., Wooster J.K., Baker P.F., Dusterhoff S.R. 2008. Theory of fine sediment infiltration into immobile gravel bed. *Journal of Hydraulic Engineering*, 134(10): 1421. DOI: [10.1061/\(ASCE\)0733-9429\(2008\)134:10\(1421\)](https://doi.org/10.1061/(ASCE)0733-9429(2008)134:10(1421))
- Cunningham A.B., Anderson C.J., Bouwer H. 1987. Effects of sediment-laden flow on channel bed clogging. *Journal of Irrigation and Drainage Engineering*, 113(1): 106–118. DOI: [10.1061/\(ASCE\)0733-9437\(1987\)113:1\(106\)](https://doi.org/10.1061/(ASCE)0733-9437(1987)113:1(106))
- De Marchi G. 1934. Saggio di teoria di funzionamento degli stramazzi laterali. *L'Energia Elettrica*, 11(11): 849–860.
- Delarze R., Gonseth Y. 2015. Lebensräume der Schweiz: Ökologie, Gefährdung, Kennarten (3. Auflage). Ott, Thun. 456 S. ISBN 9783722501499
- Dhont B., Ancey C. 2018. Are bedload transport pulses in gravel bed rivers created by bar migration or sediment waves? *Geophysical Research Letters*, 45(11): 5501–5508. DOI: [10.1029/2018GL077792](https://doi.org/10.1029/2018GL077792)
- Di Bacco M., Scorzini A.R. 2019. Are we correctly using discharge coefficients for side weirs? Insights from a numerical investigation. *Water*, 11(12): 2585. DOI: [10.3390/w11122585](https://doi.org/10.3390/w11122585)
- Dole-Olivier M.J., Marmonier P., Beffy J.L. 1997. Response of invertebrates to lotic disturbance: is the hyporheic zone a patchy refugium? *Freshwater Biology*, 37: 257–276. DOI: [10.1046/j.1365-2427.1997.00140.x](https://doi.org/10.1046/j.1365-2427.1997.00140.x)

-
- Dymytrova L., Stofer S., Ginzler C., Breiner F.T., Scheidegger C. 2016. Forest-structure data improve distribution models of threatened habitat specialists: implications for conservation of epiphytic lichens in forest landscapes. *Biological Conservation*, 196: 31–38. DOI: [10.1016/j.biocon.2016.01.030](https://doi.org/10.1016/j.biocon.2016.01.030)
- Ecohydraulic Engineering GmbH. 2019. Applications of the CASiMiR Model. Abgerufen von www.casimir-software.de/ENG/veg_eng.html
- Einum S., Fleming I.A. 1999. Maternal effects of egg size in brown trout (*Salmo trutta*): norms of reaction to environmental quality. *Proceedings of the Royal Society of London Series. B: Biological Sciences*, 266: 2095–2100. DOI: [10.1098/rspb.1999.0893](https://doi.org/10.1098/rspb.1999.0893)
- Extence C.A., Chadd R.P., England J., Dunbar M.J., Wood P.J., Taylor E.D. 2013. The assessment of fine sediment accumulation in rivers using macro-invertebrate community response. *River Research and Applications*, 29(1): 17–55. DOI: [10.1002/rra.1569](https://doi.org/10.1002/rra.1569)
- Facchini M. 2017. Downstream morphological effects of Sediment Bypass Tunnels. In: Boes R.M. (Hrsg.). *VAW-Mitteilungen* 243. Versuchsanstalt für Wasserbau, Hydrologie und Glaziologie (VAW), ETH Zürich, Zürich.
- Fetzer J., Holzner M., Plötze M., Furrer G. 2017. Clogging of an Alpine streambed by silt-sized particles – insights from laboratory and field experiments. *Water Research*, 126: 60–69. DOI: [10.1016/j.watres.2017.09.015](https://doi.org/10.1016/j.watres.2017.09.015)
- Fink S., Belser A., Juez C., Scheidegger C., Weber C., Vetsch D. 2018. «Lebensraum Gewässer – Sedimentdynamik und Vernetzung», ein Projekt im Forschungsprogramm. *Natur + Landschaft, Inside*, 4: 27–32.
- Fink S., Gross A., Senn-Irlit B., Scheidegger C. 2021. Citizen science data predict high potential for macrofungal refugia outside protected riparian areas. *Fungal Ecology*, 49: 100981. DOI: [10.1016/j.funeco.2020.100981](https://doi.org/10.1016/j.funeco.2020.100981)
- Fink S., Lanz T., Stecher R., Scheidegger C. 2017. Colonization potential of an endangered riparian shrub species. *Biodiversity and Conservation*, 26(9): 2099–2114. DOI: [10.1007/s10531-017-1347-3](https://doi.org/10.1007/s10531-017-1347-3)
- Fox A., Packman A.I., Boano F., Phillips C.B., Arnon S. 2018. Interactions between suspended kaolinite deposition and hyporheic exchange flux under losing and gaining flow conditions. *Geophysical Research Letters*, 45(9): 4077–4085. DOI: [10.1029/2018GL077951](https://doi.org/10.1029/2018GL077951)
- Friedl F., Battisacco E., Vonwiller L., Fink S., Vetsch D., Weitbrecht V., Franca M.J., Scheidegger C., Boes R., Schleiss A. 2017. Geschiebeschüttungen und Ufererosion. In: *Geschiebe- und Habitatsdynamik. Merkblatt-Sammlung Wasserbau und Ökologie. Umwelt-Wissen*, UW-1708-D, BAFU, Bern: 77–84.
- Fries J.S., Taghon G.L. 2010. Particle fluxes into permeable sediments: comparison of mechanisms mediating deposition. *Journal of Hydraulic Engineering*, 136(4): 214–221. DOI: [10.1061/\(ASCE\)HY.1943-7900.0000169](https://doi.org/10.1061/(ASCE)HY.1943-7900.0000169)
- Fritz K.A., Kirschman L.J., McCay S.D., Trushenski J.T., Warne R.W., Whiles M.R. 2017. Subsidies of essential nutrients from aquatic environments correlate with immune function in terrestrial consumers. *Freshwater Science*, 36(4): 893–900. DOI: [10.1086/694451](https://doi.org/10.1086/694451)
- Gibson S., Abraham D., Heath R., Schoellhamer D. 2009. Vertical gradational variability of fines deposited in a gravel framework. *Sedimentology*, 56(3): 661–676. DOI: [10.1111/j.1365-3091.2008.00991.x](https://doi.org/10.1111/j.1365-3091.2008.00991.x)
- Giesecke J., Heimerl S., Mosonyi E. 2014. Wasserkraftanlagen. Planung, Bau und Betrieb (6. Auflage). Springer-Verlag, Berlin: 940 S. DOI: [10.1007/978-3-662-10859-8](https://doi.org/10.1007/978-3-662-10859-8)
- Gladyshev M., Arts M., Sushchik N. 2009. Preliminary estimates of the export of omega-3 highly unsaturated fatty acids (EPA+DHA) from aquatic to terrestrial ecosystems. In: Kainz M., Brett M., Arts M. (Hrsg.). *Lipids in Aquatic Ecosystems*. Springer, New York, NY. DOI: [10.1007/978-0-387-89366-2_8](https://doi.org/10.1007/978-0-387-89366-2_8)
- Gladyshev M.I., Sushchik N.N., Makhotova O.N. 2013. Production of EPA and DHA in aquatic ecosystems and their transfer to the land. *Prostaglandins and Other Lipid Mediators*, 107: 117–126. DOI: [10.1016/j.prostaglandins.2013.03.002](https://doi.org/10.1016/j.prostaglandins.2013.03.002)

- Guisan A., Thuiller W., Zimmermann N.E. 2017. Habitat suitability and distribution models: with Applications in R. Cambridge University Press, Cambridge: 462 S. DOI: [10.1017/9781139028271](https://doi.org/10.1017/9781139028271)
- Guthruf J. (2014) Arbeitshilfe zur Messung der inneren Kolmation. Im Auftrag des Renaturierungsfonds des Kantons Bern: 14 S.
- Hager W.H. 1987. Lateral outflow over side weirs. *Journal of Hydraulic Engineering*, 113(4): 491–504. DOI: [10.1061/\(ASCE\)0733-9429\(1987\)113:4\(491\)](https://doi.org/10.1061/(ASCE)0733-9429(1987)113:4(491))
- Hager W.H. 2010. Wastewater Hydraulics, Theory and Practice (2. Auflage). Springer, Heidelberg: 660 S. DOI: [10.1007/978-3-642-11383-3](https://doi.org/10.1007/978-3-642-11383-3)
- Harwood J.L. 1996. Recent advances in the biosynthesis of plant fatty acids. *Biochimica et Biophysica Acta*, 1301(1–2): 7–56. DOI: [10.1016/0005-2760\(95\)00242-1](https://doi.org/10.1016/0005-2760(95)00242-1)
- Hauer C., Holzapfel P., Tonolla D., Habersack H., Zolezzi G. 2019. In situ measurements of fine sediment infiltration (FSI) in gravel-bed rivers with a hydropeaking flow regime. *Earth Surface Processes and Landforms*, 44(2): 433–448. DOI: [10.1002/esp.4505](https://doi.org/10.1002/esp.4505)
- Hixson S.M., Sharma B., Kainz M.J., Wacker A., Arts M.T. 2015. Production, distribution, and abundance of long-chain omega-3 polyunsaturated fatty acids: a fundamental dichotomy between freshwater and terrestrial ecosystems. *Environmental Reviews*, 23(4): 414–424. DOI: [10.1139/er-2015-0029](https://doi.org/10.1139/er-2015-0029)
- Hostmann M., Buchecker M., Ejderyan O., Geiser U., Junker B., Schweizer S., Truffer B., Zaugg Stern M. 2005. Wasserbauprojekte gemeinsam planen. Handbuch für die Partizipation und Entscheidungsfindung bei Wasserbauprojekten. Eawag, WSL, LCH-EPFL, VAW-ETHZ: 48 S.
- Iwata T., Nakano S., Murakami M. 2003. Stream meanders increase insectivorous bird abundance in riparian deciduous forests. *Ecography*, 26(3): 325–337. DOI: [10.1034/j.1600-0587.2003.03355.x](https://doi.org/10.1034/j.1600-0587.2003.03355.x)
- Izadinia E., Heidarpour M. 2016. Discharge coefficient of a circular-crested side weir in rectangular channels. *Journal of Irrigation and Drainage Engineering*, 142(6): 06016005. DOI: [10.1061/\(ASCE\)IR.1943-4774.0001025](https://doi.org/10.1061/(ASCE)IR.1943-4774.0001025)
- Jäggi M., Boes R., Bühlmann M., Dähler M., Huber A., Kaspar H., Schluh M., Weiss H., Stocker S., Weitbrecht V., Schmocke L. 2015. Positionspapier zu seitlichen Hochwasserentlastungen an Flüssen. Kommission für Hochwasserschutz des Schweizerischen Wasserwirtschaftsverbandes (KOHS). *Wasser Energie Luft*, 107(4): 293–295. ISSN: 0377-905X
- Jöhl R., Martin M., Bonnard L., Huber C. 2020. Lösungswege bei überlagernden Interessen im Bereich Biodiversität. Info Habitat. Im Auftrag des Bundesamts für Umwelt (BAFU), Bern: 60 S.
- Jonsson B., Jonsson N. 2011. Ecology of Atlantic salmon and brown trout: habitat as a template for life histories. Springer, Dordrecht: 708 S. DOI: [10.1007/978-94-007-1189-1](https://doi.org/10.1007/978-94-007-1189-1)
- Juez C., Schärer C., Jenny H., Schleiss A.J., Franca M.J. 2019. Floodplain land cover and flow hydrodynamic control of overbank sedimentation in compound channel flows. *Water Resources Research*, 55(11): 9072–9091. DOI: [10.1029/2019WR024989](https://doi.org/10.1029/2019WR024989)
- Kato C., Iwata T., Nakano S., Kishi D. 2003. Dynamics of aquatic insect flux affects distribution of riparian web-building spiders. *Oikos*, 103(1): 113–120. DOI: [10.1034/j.1600-0706.2003.12477.x](https://doi.org/10.1034/j.1600-0706.2003.12477.x)
- Keller I., Schuler J., Bezault E., Seehausen O. 2012. Parallel divergent adaptation along replicated altitudinal gradients in Alpine trout. *BMC Evolutionary Biology*, 12: 210. DOI: [10.1186/1471-2148-12-210](https://doi.org/10.1186/1471-2148-12-210)
- Keller I., Taverna A., Seehausen O. 2011. Evidence of neutral and adaptive genetic divergence between European trout populations sampled along altitudinal gradients. *Molecular Ecology*, 20(9): 1888–1904. DOI: [10.1111/j.1365-294X.2011.05067.x](https://doi.org/10.1111/j.1365-294X.2011.05067.x)
- Kondolf G.M. 1997. Hungry water: effects of dams and gravel mining on river channels. *Environmental Management*, 21: 533–551. DOI: [10.1007/s002679900048](https://doi.org/10.1007/s002679900048)

- Kondolf G.M. 2000. Assessing salmonid spawning gravel quality. *Transactions of the American Fisheries Society*, 129(1): 262–281. DOI: 10.1577/1548-8659(2000)129<0262:ASSGQ>2.0.CO;2
- Kondolf G.M., Wolman M.G. 1993. The sizes of salmonid spawning gravels. *Water Resources Research*, 29(7): 2275–2285. DOI: 10.1029/93WR00402
- Kraus J. M. 2019. Contaminants in linked aquatic–terrestrial ecosystems: predicting effects of aquatic pollution on adult aquatic insects and terrestrial insectivores. *Freshwater Science*, 38(4): 919–927. DOI: 10.1086/705997
- Laeser S.R.C., Baxter V., Fausch K.D. 2005. Riparian vegetation loss, stream channelization, and web-weaving spiders in northern Japan. *Ecological Research*, 20(6): 646–651. DOI: 10.1007/s11284-005-0084-3
- Lepori F., Hjerdt N. 2006. Disturbance and aquatic biodiversity: reconciling contrasting views. *BioScience*, 56(10): 809–818. DOI: 10.1641/0006-3568(2006)56[809:DAABRC]2.0.CO;2
- Maggini R. 2011. Species distribution models for conservation-oriented studies in Switzerland: filling data and tools gaps. Doktorarbeit, Universität Lausanne, Lausanne.
- Maggini R., Lehmann A., Zbinden N., Zimmermann N.E., Bolliger J., Schröder B., Foppen R., Schmid H., Beniston M., Jenni L. 2014. Assessing species vulnerability to climate and land use change: the case of the Swiss breeding birds. *Diversity and Distributions*, 20(6): 708–719. DOI: 10.1111/ddi.12207
- Mathers K.L., Kowarik C., Rachelly C., Robinson C.T., Weber C. 2021a. The effects of sediment traps on instream habitat and macroinvertebrates of mountain streams. *Journal of Environmental Management*, 295: 113066. DOI: 10.1016/j.jenvman.2021.113066
- Mathers K.L., Robinson C.T., Weber C. 2021b. Artificial flood reduces fine sediment clogging enhancing hyporheic zone physiochemistry and accessibility for macroinvertebrates. *Ecological Solutions and Evidence*, 2(4): e12103. DOI: 10.1002/2688-8319.12103
- Mathers K.L., Robinson C.T., Weber C. (2022). Patchiness in flow refugia use by macroinvertebrates following an artificial flood pulse. *River Research and Applications*, 38: 696–707.
- Meurer S., Pfarr U. 2018. 30 Jahre gesteuerte Hochwasserrückhaltung am südlichen Oberrhein. *Natur und Landschaft*, 93(2): 64–70. DOI: 10.17433/2.2018.50153547.64-70
- Meile T., Fette M., Baumann P. 2005. Synthesebericht Schwall/Sunk. Eine Publikation des Rhone-Thur-Projektes. Eawag, WSL, LCH-EPFL, VAW-ETHZ: 48 S.
- Mooneyham C., Strom K. 2018. Deposition of suspended clay to open and sand-filled framework gravel beds in a laboratory flume. *Water Resources Research*, 54(1): 323–344. DOI: 10.1002/2017WR020748
- Mörtl C., Vorlet S.L., Manso P.A., De Cesare G. 2020. The sediment challenge of Swiss river corridors interrupted by man-made reservoirs. In: Uijttewaal W., Franca M.J., Valero D., Chavarrias V., Arbós C.Y., Schielen R., Crosato A. (Hrsg.). Riverflow 2020: Proceedings of the 10th International Conference on Fluvial Hydraulics. Delft, The Netherlands, 7.–10. Juli 2020. CRC Press, London: 1764–1773. DOI: 10.1201/b22619
- Mörz S. 2017. Einfluss des Keimsubstrats auf die Etablierung und das Konkurrenzverhalten von amentypischen Pflanzenarten sowie invasiven Pflanzenarten. Bachelorarbeit, Hochschule Weihenstephan-Triesdorf, WSL Birmensdorf.
- Muehlbauer J.D., Lupoli C.A., Kraus J.M. 2019. Aquatic–terrestrial linkages provide novel opportunities for freshwater ecologists to engage stakeholders and inform riparian management. *Freshwater Science*, 38(4): 946–952. DOI: 10.1086/706104
- Murray-Bligh J. 1999. Procedures for collecting and analysing macroinvertebrate samples. BT0001. The Environment Agency, Bristol: 176 S.
- Packman A.I., MacKay J.S. 2003. Interplay of stream–subsurface exchange, clay particle deposition, and streambed evolution. *Water Resources Research*, 39(4): 1097. DOI: 10.1029/2002WR001432

- Paetzold A., Schubert C.J., Tockner K. 2005. Aquatic terrestrial linkages along a braided-river: riparian arthropods feeding on aquatic insects. *Ecosystems*, 8(7): 748–759. DOI: [10.1007/s10021-005-0004-y](https://doi.org/10.1007/s10021-005-0004-y)
- Paetzold A., Smith M., Warren P.H., Maltby, L. 2011. Environmental impact propagated by cross-system subsidy: chronic stream pollution controls riparian spider populations. *Ecology*, 92(9): 1711–1716. DOI: [10.1890/10-2184.1](https://doi.org/10.1890/10-2184.1)
- Parasiewicz P. 2011. MesoHABSIM – a concept for application of instream flow models in river restoration planning. *Fisheries*, 26(9): 6–13. DOI: [10.1577/1548-8446\(2001\)026<0006:M>2.0.CO;2](https://doi.org/10.1577/1548-8446(2001)026<0006:M>2.0.CO;2)
- Park J., Batalla R.J., Birgand F., Esteves M., Gentile F., Harrington J.R., Navratil O., López-Tarazón J.A., Vericat D. 2019. Influences of catchment and river channel characteristics on the magnitude and dynamics of storage and re-suspension of fine sediments in river beds. *Water*, 11(5): 878. DOI: [10.3390/w11050878](https://doi.org/10.3390/w11050878)
- Pfarr U. 2014. Erfahrung mit ökologischen Flutungen der Polder Altenheim – Umweltverträglicher Hochwasserschutz im Integrierten Rheinprogramm. *Auenmagazin, Magazin des Auenzentrums Neuburg an der Donau*, Juni 2014: 9–13.
- Pistocchi A., Castellarin A. 2012. An analysis of change in alpine annual maximum discharges: implications for the selection of design discharges. *Hydrological Processes*, 26: 1517–1526. DOI: [10.1002/hyp.8249](https://doi.org/10.1002/hyp.8249)
- Pulg U., Barlaup B.T., Sternecker K., Trepl L., Unfer G. 2013. Restoration of spawning habitats of brown trout (*Salmo trutta*) in a regulated chalk stream. *River Research and Applications*, 29(2): 172–182. DOI: [10.1002/rra.1594](https://doi.org/10.1002/rra.1594)
- Rachelly C., Friedl F., Boes R.M., Weitbrecht V. 2021a. Morphological response of channelized, sinuous gravel-bed rivers to sediment replenishment. *Water Resources Research*, 57(6): e2020WR029178. DOI: [10.1029/2020WR029178](https://doi.org/10.1029/2020WR029178)
- Rachelly C., Mathers K.L., Weber C., Weitbrecht V., Boes R.M., Vetsch D.F. 2021b. How does sediment supply influence refugia availability in river widenings? *Journal of Ecohydraulics*, 6(2): 121–138. DOI: [10.1080/24705357.2020.1831415](https://doi.org/10.1080/24705357.2020.1831415)
- Rachelly C., Weitbrecht V., Vetsch D.F., Boes R.M. 2018. Morphological development of river widenings with variable sediment supply. In: Paquier A., Rivière N. (Hrsg.). *River Flow 2018: 9th International conference on fluvial hydraulics*. Lyon-Villeurbanne, Frankreich, 5.–8. September 2018. *E3 Web of Conferences*, 40: 02007. DOI: [10.1051/e3sconf/20184002007](https://doi.org/10.1051/e3sconf/20184002007)
- Ramberg E., Burdon F.J., Sargac J., Kupillas B., Rîşnoveanu G., Lau D.C., Johnson R.K., McKie B.G. 2020. The structure of riparian vegetation in agricultural landscapes influences spider communities and aquatic–terrestrial linkages. *Water*, 12(10): 2855. DOI: [10.3390/w12102855](https://doi.org/10.3390/w12102855)
- Ranga Raju K.G., Gupta S.K., Prasad B. 1979. Side weir in rectangular channel. *Journal of the Hydraulics Division*, 105(5): 547–554. DOI: [10.1061/JYCEAJ.0005207](https://doi.org/10.1061/JYCEAJ.0005207)
- Riebe C.S., Sklar L.S., Overstreet B.T., Wooster J.K. 2014. Optimal reproduction in salmon spawning substrates linked to grain size and fish length. *Water Resources Research*, 50(2): 898–918. DOI: [10.1002/2013WR014231](https://doi.org/10.1002/2013WR014231)
- Robinson C. 2018. Long-term ecological responses of the River Spöl to experimental floods. *Freshwater Science*, 37(3): 433–447. DOI: [10.1086/699481](https://doi.org/10.1086/699481)
- Rohde S. 2005. Integrales Gewässermanagement – Erkenntnisse aus dem Rhone-Thur-Projekt. Synthesebericht Gerinneaufweitungen. Eidgenössische Forschungsanstalt für Wald, Schnee und Landschaft, WSL, Birmensdorf: 69 S.
- Rosier B. 2007. Interaction of side weir overflow with bed-load transport and bed morphology in a channel. Doktorarbeit, EPFL, Lausanne.
- Rosier B., Boillat J.L., Schleiss A. 2008. Berücksichtigung von morphologischen Prozessen bei der Bemessung einer seitlichen Notentlastung an Flüssen. Rhone-Thur-Projekt. *Wasser Energie Luft*, 100(1): 1–6.
- Sayanova O.V., Napier J.A. 2004. Eicosapentaenoic acid: biosynthetic routes and the potential for synthesis in transgenic plants. *Phytochemistry*, 65(2): 147–158. DOI: [10.1016/j.phytochem.2003.10.017](https://doi.org/10.1016/j.phytochem.2003.10.017)

-
- Schälchli U. 1992. The clogging of coarse gravel river beds by fine sediment. *Hydrobiologia*, 235: 189–197. DOI: 10.1007/BF00026211
- Schälchli U. 1993. Die Kolmation von Fließgewässersohlen: Prozesse und Berechnungsgrundlagen. Doktorarbeit, ETH Zürich, Zürich. DOI: 10.3929/ethz-a-001322977
- Schälchli U., Kirchhofer A. 2012. Sanierung Geschiebehauptsatz – Strategische Planung. Ein Modul der Vollzugshilfe Renaturierung der Gewässer. *Umwelt-Vollzug*, UV-1226-D, Bundesamt für Umwelt (BAFU), Bern: 74 S.
- Schälchli, Abegg + Hunzinger. 2001. Trübung und Schwall Alpenrhein – Einfluss auf Substrat, Benthos und Fische, Fachbericht Trübung, Strömung, Geschiebetrieb und Kolmation. Internationale Regierungskommission Alpenrhein – Projektgruppe Gewässer und Fischökologie: 101 S.
- Schälchli, Abegg + Hunzinger. 2002. Kolmation: Methoden zur Erkennung und Bewertung. Im Auftrag des Wasserforschungsinstituts des ETH-Bereichs (Eawag), Dübendorf: 24 S.
- Schleiss A.J., De Cesare G., Althaus J.J. 2010. Verlandung der Staueseen gefährdet die nachhaltige Nutzung der Wasserkraft. *Wasser Energie Luft*, 102(1): 31–40.
- Schlotz N., Roulin A., Ebert D., Martin-Creuzburg D. 2016. Combined effects of dietary polyunsaturated fatty acids and parasite exposure on eicosanoid-related gene expression in an invertebrate model. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 201: 115–123. DOI: 10.1016/j.cbpa.2016.07.008
- Schroff R., Mörtl C., De Cesare G. 2021. Wirkungskontrolle einer Sedimentzugabe: Habitatvielfalt und Kolmation. *WasserWirtschaft*, 111(9), 68–76. DOI: 10.1007/s35147-021-0896-2
- Stähly S., Franca M.J., Robinson C.T., Schleiss A.J. 2020. Erosion, transport and deposition of a sediment replenishment under flood conditions. *Earth Surface Processes and Landforms*, 45(13): 3354–3367. DOI: 10.1002/esp.4970
- Stanley D.W. 2014. Eicosanoids in invertebrate signal transduction systems. Princeton University Press, Princeton. ISBN: 9780691630038
- Sternecker K., Wild R., Geist J. 2013. Effects of substratum restoration on salmonid habitat quality in a subalpine stream. *Environmental Biology of Fishes*, 96(12): 1341–1351. DOI: 10.1007/s10641-013-0111-0
- Stillwell W., Wassall S.R. 2003. Docosahexaenoic acid: membrane properties of a unique fatty acid. *Chemistry and Physics of Lipids*, 126(1): 1–27. DOI: 10.1016/s0009-3084(03)00101-4
- Streit A. 2018. Vorkommen von *Arthonia cinnabarina* auf *Fraxinus excelsior* in den Hartholzauenwälder des Einzugsgebiets der oberen Töss (ZH, Schweiz). Universität Bern.
- Tonina D., Buffington J.M. 2009. Hyporheic exchange in mountain rivers I: mechanics and environmental effects. *Geography Compass*, 3(3): 1063–1086. DOI: 10.1111/j.1749-8198.2009.00226.x
- Tonolla D. 2017. Schwall-Sunk-Massnahmen. Ein Modul der Vollzugshilfe Renaturierung der Gewässer. *Umwelt-Vollzug*, UV-1701-F, Bundesamt für Umwelt (BAFU), Bern: 133 S.
- Twining C.W., Brenna J.T., Lawrence P., Shipley J.R., Tollefson T.N., Winkler D.W. 2016. Omega-3 long-chain polyunsaturated fatty acids support aerial insectivore performance more than food quantity. *Proceedings of the National Academy of Sciences of the United States of America*, 113(39): 10920–10925. DOI: 10.1073/pnas.1603998113
- Twining C.W., Shipley J.R., Winkler D.W. 2018. Aquatic insects rich in omega-3 fatty acids drive breeding success in a widespread bird. *Ecology Letters*, 21(12): 1812–1820. DOI: 10.1111/ele.13156
- Uttaro A.D. 2006. Biosynthesis of polyunsaturated fatty acids in lower eukaryotes. *IUBMB Life*, 58(10): 563–571. DOI: 10.1080/15216540600920899

-
- Van Looy K., Tonkin J.D., Flory M., Leigh C., Soininen J., Larsen S., Heino J., Poff N.L.R., Delong M., Jähnig S.C., Datry T. 2019. The three Rs of river ecosystem resilience: resources, recruitment, and refugia. *River Research and Applications*, 35(2): 107–120. DOI: [10.1002/rra.3396](https://doi.org/10.1002/rra.3396)
- Van Rijn L.C. 1984. Sediment transport, part II: suspended load transport. *Journal of Hydraulic Engineering*, 110(11): DOI: [10.1061/\(ASCE\)0733-9429\(1984\)110:11\(1613\)](https://doi.org/10.1061/(ASCE)0733-9429(1984)110:11(1613))
- Van Rijn L.C. 2005. Principles of sedimentation and erosion engineering in rivers, estuaries and coastal seas. Aqua Publications, Blokzijl: 623 S. ISBN: 9789080035669
- Vanzo D., Peter S., Vonwiller L., Bürgler M., Weberndorfer M., Siviglia A., Conde D., Vetsch D.F. 2021. Basement v3: a modular freeware for river process modelling over multiple computational backends. *Environmental Modelling and Software*, 143: 105102. DOI: [10.1016/j.envsoft.2021.105102](https://doi.org/10.1016/j.envsoft.2021.105102)
- Vetsch D., Allen J., Belser A., Boes R., Brodersen J., Fink S., Franca M., Juez C., Nadyeina O., Christopher R.T., Scheidegger C., Schleiss A., Siviglia A., Weber C., Weitbrecht V. 2018. Lebensraum Gewässer – Sedimentdynamik und Vernetzung: Forschungsprogramm «Wasserbau und Ökologie». *Wasser, Energie und Luft*, 110(1): 19–24.
- Vetsch D.F., Bürgler M., Gerke E., Kammerer S., Vanzo D., Boes R. 2020. BASEMENT – Softwareumgebung zur numerischen Modellierung der Hydro- und Morphodynamik in Fließgewässern. *Österreichische Wasser- und Abfallwirtschaft*, 72(7): 281–290. DOI: [10.1007/s00506-020-00677-6](https://doi.org/10.1007/s00506-020-00677-6)
- Vetsch D.F., Siviglia A., Bacigaluppi P., Bürgler M., Caponi F., Conde D., Gerke E., Kammerer S., Koch A., Peter S., Vanzo D., Vonwiller L., Weberndorfer M. 2021. System manuals of BASEMENT, version 3.1.1. Laboratory of Hydraulics, Glaciology and Hydrology (VAW). ETH Zürich, Zürich. www.basement.ethz.ch
- Weber C., Nilsson C., Lind L., Alfredsen K.T., Polvi L. 2013. Winter disturbances and riverine fish in temperate and cold regions. *BioScience*, 63(3): 199–210. DOI: [10.1525/bio.2013.63.3.8](https://doi.org/10.1525/bio.2013.63.3.8)
- Weber C., Sprecher L., Åberg U., Thomas G., Baumgartner S., Haertel-Borer S. 2019. Zusammenfassung und Inhalt. In: Bundesamt für Umwelt (BAFU) (Hrsg.). Wirkungskontrolle Revitalisierung – gemeinsam lernen für die Zukunft. BAFU, Bern: 1–3.
- Wharton G., Mohajeri S.H., Righetti M. 2017. The pernicious problem of streambed colmatation: a multi-disciplinary reflection on the mechanisms, causes, impacts, and management challenges. *Wiley Interdisciplinary Reviews: Water*, 4(5): e1231. DOI: [10.1002/wat2.1231](https://doi.org/10.1002/wat2.1231)
- Wohl E., Bledsoe B.P., Jacobson R.B., Poff N.L.R., Rathburn S.L., Walters D.M., Wilcox A.C. 2015. The natural sediment regime in rivers: broadening the foundation for ecosystem management. *BioScience*, 65(4): 358–371. DOI: [10.1093/biosci/biv002](https://doi.org/10.1093/biosci/biv002)
- Wöllner R., Scheidegger C., Fink S. 2021. Gene flow in a highly dynamic habitat and a single founder event: proof from a plant population on a relocated river site. *Global Ecology and Conservation*, 28: e01686. DOI: [10.1016/j.gecco.2021.e01686](https://doi.org/10.1016/j.gecco.2021.e01686)
- Woolsey S., Weber C., Gonser T., Hoehn E., Hostmann M., Junker B., Roulier C., Schweizer S., Tiegs S., Tockner K., Peter A. 2005. Handbuch für die Erfolgskontrolle bei Fließgewässerrevitalisierungen. Eine Publikation des Rhone-Thur Projektes. Eawag, WSL, LCH-EPFL, VAW-ETHZ: 112.
- Wooster J.K., Dusterhoff S.R., Cui Y., Sklar L.S., Dietrich W.E., Malko M. 2008. Sediment supply and relative size distribution effects on fine sediment infiltration into immobile gravels. *Water Resources Research*, 44(3): W03424. DOI: [10.1029/2006WR005815](https://doi.org/10.1029/2006WR005815)