Amphibian mitigation measures design: do we focus enough on conservation status and species-specific requirements?

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Amphibian mitigation measures have got a forty year history in Europe. During that time interventions at over 1,000 road and rail sections were made to help amphibians crossing safely. In the overwhelming majority of permanent solutions tunnels were built or culverts were modified and fences were erected to direct amphibians into them. There is a great diversity in the actual technical solution, it is mainly the result of engineering inventions as most mitigation measures were constructed according to the requirements of large common species with a considerable migration distance, the common toad (*Bufo bufo*) and the common frog (*Rana temporaria*), which are abundant and play an important role in the local ecosystems. At most sections, however, several species cross roads or railways together due to their similar habitat needs. Their relative abundance may vary from site to site according to their local population sizes. In Hungary, for example, at least four taxa (*Triturus vulgaris*, *Bufo bufo*, *Pelobates fuscus*, *Rana esculenta c.*) with different characteristics are known to be the amphibian with the highest individual number to cross at the different road sections. Besides site-specific differences in different geographical regions, the conservation status of some species should also be taken into consideration when the actual mitigation measures are planned. Accordingly, the long-term survival of the local amphibian community may require different measures to cross linear infrastructure elements the most efficiently. As such, the actual mitigation measure design should not only meet general standards but also reflect to the composition and relative abundance as well as the vulnerability of the individual species of the local amphibian fauna to function as an effective corridor.