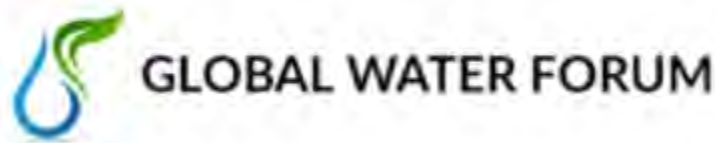


<https://www.globalwaterforum.org/2025/09/26/truck-spills-a-threat-to-aquatic-life/>



Truck spills: A threat to aquatic life

September 26th, 2025

Valter M. Azevedo-Santos (Centro Universitário Eduvale, Brazil) & Philip M. Fearnside (Instituto Nacional de Pesquisas da Amazônia, Brazil)



Truck spills are an important threat to aquatic ecosystems in countries all around the world, yet it's a problem that often doesn't receive the attention it deserves. Here, Valter Azevedo-Santos and Philip Fearnside discuss the growing problem of truck spills and how their impacts can be mitigated. To reduce truck spills and the impacts of these spills, more attention needs to be focused on the condition of drivers, the state of their trucks and the characteristics of the road infrastructure they use. In addition, trucking companies need to be more responsible for the recovery of the ecosystems that are impacted by truck spills.

At the beginning of last year, a truck carrying concentrated sulfonic acid, a chemical used in the cosmetics industry, overturned in a protected area in Brazil (1). The cargo leak, which reached a local watercourse, killed many fish and other aquatic organisms (1). This case illustrates the impact of truck leaks in Brazil and in other countries.

And it's a problem of epidemic proportions. A study published in 2022 compiled over 70 cases of spills and pollution of Brazilian aquatic ecosystems (2). In addition to leaks of fuel, other toxic substances such as pesticides occur, often with confirmed loss of aquatic biodiversity. A major leak last year in Brazil compromised water quality for human use, as well as other ecosystem services (1). The number of reported truck leaks in Brazil is grossly underestimates the true number due to the lack of data from government agencies in remote regions of the country and the absence of data for "ghost" roads.

And this problem is not restricted to Brazil, it impacts many countries (1). Truck spills are widespread and apparently are not being taken seriously by global authorities. To exemplify some recent cases, it is necessary to resort to major media outlets where pollution by trucks is frequently reported.

In July 2025, a waterway in the US state of Washington was polluted by 3000 gallons of fuel; the newspaper headline: "Dead fish and disrupted water supply (...)"(3). Similar events have polluted African, Australian, European, and Asian water bodies (1).

The big question, beyond the immediate deaths, is whether it possible, over time, to remove all the pollutants from the affected ecosystems? Known cases of oil pollution show that it is not. Therefore, preventive actions for accidents involving trucks with dangerous cargo needs to be intensified throughout the world, as various scientists have already pointed out (1). Preventive actions were discussed in an article recently published in the journal *Water Biology and Security* (1). According to the study, more stringent preventive and post-accident measures must occur in Brazil.

Among the preventive measures, some stand out, such as mechanisms to prevent drivers from driving for long periods, including under the influence of substances to avoid sleep

(1)—which facilitates new accidents. In addition, strategies must be adopted to prevent trucks in poor mechanical condition from transporting loads, whether they are toxic or not (1). Finally, strategies should focus on road infrastructure, such as deactivating highways in protected areas, improving signage, galleries for draining storm water, distancing roads from large bodies of water, and so on (1).

If we want to protect natural values, it should be unacceptable for roads to pass through protected areas, as this not only results in vehicles running over animals but also enables the pollution of watercourses. Reducing the number of accidents is an essential condition, but it is not the only one.

Generally, the response to a truck spill is not managed by people who understand biodiversity. It is necessary, therefore, to have a multidisciplinary team that includes specialist biologists to assess the negative impacts caused by the spill (1). These reports are fundamental for understanding the magnitude of the impact and the possible paths for mitigation.

Finally, consideration needs to be given to the punishment meted out to those responsible for truck accidents. In addition to fines, there is a need for payments that cover the recovery of the affected watercourse. (1). Such an approach might encourage companies to act more seriously to curb dangerous driving and provide maintenance of trucks before accidents happen.

The number of roads has been increasing around the world (4), and urbanization in different regions has stimulated ever more transport of dangerous cargoes (5). Given this, truck-spill events around the planet will become more frequent and, as a consequence, aquatic ecosystems will become more polluted. If actions are not taken to control aquatic pollution (including those originating from truck spills), we will continue to endanger biodiversity, ecosystem services, and the health of the planet's current and future generations.

References

1. Azevedo-Santos, V.M., *et al.* (2025). Aquatic pollution from truck spills: Urgent action needed in Brazil and beyond. *Water Biology and Security* 4(3): art. 100372. <https://doi.org/10.1016/j.watbs.2025.100372>
2. Azevedo-Santos, V.M., *et al.* (2022). Roads to pollution: Brazil's aquatic biodiversity affected by truck leaks. *Oecologia Australis* 26(3): 483–493. <https://doi.org/10.4257/oeco.2022.2603.07>

3. Goldstein-Street, J. (2025). Dead fish and disrupted water supply after fuel truck crash near Port Angeles. The Washington State Standard, 20 July 2025. <https://washingtonstatestandard.com/2025/07/20/dead-fish-and-disrupted-water-supply-after-fuel-truck-crash-near-port-angeles/>
4. Meijer, J.R., *et al.* (2018). Global patterns of current and future road infrastructure. *Environmental Research Letters* 13(6): 064006.
5. Verginassi, A., *et al.* (2007). Acidentes ambientais no transporte rodoviário de cargas perigosas no estado de Mato Grosso. *Engenharia Ambiental: Pesquisa e Tecnologia* 4(1): 103–119.

Valter M. Azevedo-Santos is a Professor at the Centro Universitário Eduvale in Avaré, São Paulo, Brazil, and also at the Programa de Pós-Graduação em Biodiversidade, Ecologia e Conservação (PPGBec) in Porto Nacional, Tocantins, Brazil. He works on aquatic conservation. Publications at https://www.researchgate.net/profile/Valter-Azevedo-Santos?ev=hdr_xprf

Philip M. Fearnside (Ph.D. in Biological Sciences, University of Michigan) is at Brazil's National Institute for Research in Amazonia (INPA) in Manaus since 1978. He studies environmental services of Amazonian forests and the environmental and social impacts of hydroelectric dams, roads and other forms of development. In 2006 he was identified by Thompson-ISI as the world's second most-cited scientist on the subject of [global warming](#). In 2012 he was identified as the world's 7th most-cited scientist in the area of [sustainable development](#), in 2020 as “most influential” in Brazil on [ecology](#) and in 2021 as “most influential” in Brazil on [climate change](#).

The views expressed in this article belong to the individual authors and do not represent the views of the Global Water Forum, the UNESCO Chair in Water Economics and Transboundary Water Governance, UNESCO, the Australian National University, World Bank, Oxford University, or any of the institutions to which the authors are associated. Please see the Global Water Forum terms and conditions [here](#).

Banner image: The Mogi-Guaçu is a river in southeastern Brazil that is home to several threatened fish species. The river is crossed by several roads with high truck traffic. Management actions such as truck inspections, speed bumps, and speed traps in these areas would go some way to mitigating truck spills and their impacts on these important aquatic ecosystems. (Image from Reference 1.)