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Human pressures on biodiversity at a global scale and solutions given by conservation sciences

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Human forcing on the environment is nowadays an accepted fact. The main human pressures on biodiversity have been identified in the 1980s as the “evil quartet”: (1) habitat fragmentation, (2) species invasions, (3) over-exploitation, and (4) cascade effects. Almost 40 years later, we explored 15 years of literature in conservation sciences to test whether these threats remain the same. We further detailed the solutions given by conservationists to face the identified human pressures, as well as their efficiency. We found that the types of pressures were still more or less identical to those identified 40 years ago; however, these pressures were unevenly distributed across continents and oceans. Among the solutions, protected areas remained the keystone of the conservation measures; however, a large panel of solutions is now proposed, ranging from strict coercive solutions to human-friendly measures. We finally discuss the efficiency of conservation sciences to halt the current biodiversity crisis, as different management modes are now available. The understanding of time and spatial ranges of human pressures now offer enough examples to get a deeper insight onto conservation measures and their efficiency.