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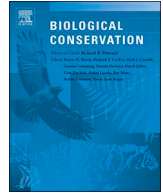
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Letter to the editor

Conservation implications of COVID19: Effects via tourism and extractive industries



Corlett et al. (2020b) identified many ways in which the COVID19 coronavirus pandemic can affect conservation. Here I suggest two further mechanisms, via the impacts of tourism and extractive industries, respectively. In summary: (i) reductions in funding from tourism lead to increased poaching; and (ii) extractive industries enterprises seize opportunities to encroach on the conservation estate, via multiple mechanisms.

Numbers of tourists visiting conservation areas are lower worldwide, and this reduces tourist impacts. Most reductions, however, are only temporary. There are a few possible exceptions, via breeding and migration events in some species. For example, there have been anecdotal reports of enhanced turtle hatchlings on empty beaches; so if hatchlings survive to adulthood, that may boost reproductive cohorts for decades. Meanwhile, however, there are major risks of negative conservation effects from reduced tourism. In nations with publicly funded protected area systems, park rangers may be unable to operate, leading to unregulated access for illegal high-impact uses such as off-road driving, hunting, logging, and plant collection, depending on ecosystem. This applies in all continents (Corlett et al., 2020a). In many developing nations, conservation estates include public, communal, private and NGO tenures. Conservation relies on tourism, to fund anti-poaching and translocation programs, and for local economic support (Buckley et al., 2016; Buckley and Pabla, 2012). Without tourism, poaching of threatened species by international criminal organisations increases greatly (Briggs, 2020; Maron, 2020; Patta, 2020; Rhino Conservation Botswana, 2020). Local livelihoods may suffer; and local residents and nomadic pastoralists may encroach into reserves, to hunt for food and graze livestock herds (Anon, 2020; Taylor, 2020). In their own lands, this is their choice; elsewhere, it may be illegal but unpreventable. The risk that conservation reliant on tourism funding may suffer during tourism downturns has been identified previously for individual nations (Buckley, 2010). Now, it is global.

Conservation has opponents as well as advocates. Large private resource extraction enterprises worldwide maintain long-term strategies to gain access to publicly-owned resources in conservation reserves. They may make multiple attempts over many decades, e.g. when governments change (Buckley, 2016). Any social or civil disruption, including the current pandemic, provides an opportunity. There are six subsidiary mechanisms. (i) Direct physical invasion, with heavy mechanical equipment. (ii) Changed local social licence, in favour of extractive industries, when other employment opportunities vanish suddenly. (iii) Changed political balance, where public officials issue permits that under normal circumstances would provoke strong public opposition. (iv) Deliberate political appointment of officials who will permit high-impact activities. (v). Changed legislation, where lobbyists weaken or abolish conservation and environmental laws whilst public attention is directed elsewhere. (vi) Changed litigation outcomes,

where courts pre-stacked with political appointees take opportunities to decide lawsuits contrary to conservation interests. All of these have been reported during the COVID19 pandemic for the USA (Conservation Lands Foundation, 2020; Wuerthner, 2020). They are also occurring in many other countries, but scrutiny may be more limited, and media coverage is in multiple languages.

In conclusion, I concur with all the concerns raised by Corlett et al. (2020b), but I suggest that the two outlined above, related to tourism and extractive industries respectively, create additional powerful threats to conservation during the COVID-19 pandemic.

Declaration of competing interest

No conflicts of interest.

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