

Traditional Knowledge underlies One Health

The degradation of natural environments is a major driver of disease spread from animals to humans (1). The One Health strategy, which links human, animal, and environmental health, has been central to discussions about recovering from the coronavirus disease 2019 (COVID-19) pandemic and preventing the spread of the next zoonotic disease (2). However, scientists and policy-makers often overlook evidence that the One Health paradigm is already embedded in Indigenous values, worldviews, and laws (3). To maximize the effectiveness of the One Health approach, Indigenous principles and inputs should inform both the way it is taught in emerging One Health academic programs and university courses and its application (4) from the Arctic (5) to the tropics.

Traditional Knowledge held by Indigenous Peoples is not only a knowledge system; it is also a process (6) by which resilience to past environmental change and previous disease outbreaks was achieved. Traditional Knowledge holders are intimately familiar with environmental histories and with ways of living respectfully and reciprocally with the land (7). With this knowledge and these processes, they can guide adaptation strategies and ecological restoration plans to achieve sustainability, aided by Western science (8).

The vital role of Indigenous Peoples' lands and the success of Indigenous environmental stewardship in sustaining thriving habitats and biodiversity are well documented (9). The numbers of bird, mammal, reptile, and amphibian species on lands that are managed or co-managed by Indigenous Peoples are equal to or higher than the numbers of species on protected lands (10). Investment in Indigenous Protected and Conserved Areas (11, 12), Indigenous guardian programs, and land-based education are essential to a One Health agenda.

As we mobilize knowledge for recovery and reimagine the ways in which we live and consume in the wake of COVID-19—and amid the ongoing climate and biodiversity emergencies—partnering with holders of Traditional Knowledge can help drive systemic change by transforming our relationships with the Earth and with each other.

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COMPETING INTERESTS

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Swiss law would weaken wildlife protection

In September 2019, the Swiss parliament approved a change to the law on hunting and protection of wild mammals and birds (1). The modified law is likely to substantially harm already threatened species. In response, concerned citizens collected signatures to trigger a referendum vote. On 27 September, the people of Switzerland will decide whether the country will enact this law (2).

The proposed change to the law introduces a new category of species called "protected but hunted," which includes the wolf (*Canis lupus*) and the ibex (*Capra ibex*). The new rules would allow people to cull the wolf population, the latest minimum count of which is 70 (3), during 5 months of the year. The hunting season of the ibex would be extended from 3 to 4 months.

Checks and balances in wildlife conservation would be methodically weakened by the change. The list of "protected but

hunted" species will be open to changes by executive decrees of the Federal Council, without requiring parliamentary approval. Nature protection organizations will have fewer opportunities to litigate against decisions to hunt. The modification would further reduce federal power over hunting by delegating decisions to kill "protected but hunted" species to the cantonal states.

The law would also disregard science and conservation efforts by introducing justifications for hunting "protected but hunted" species that are based on non-hazard criteria. Hunting of species in that category would be allowed for unspecified hunting reasons, to keep populations at an arbitrarily suitable level, to prevent damages to livestock and infrastructure before any damage has occurred, and because the animals attract the attention of people. The hunting of "protected but hunted" species would be allowed even in strictly protected game reserves.

These legal changes were proposed despite the United Nations' call for a focused effort on biodiversity goals in 2020 (4). They are an affront to the principle of non-regression of environmental laws (5). Switzerland, one of the world's wealthiest countries, should oppose narrow sectorial interests and work to preserve and restore biodiversity.

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COMPETING INTERESTS

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