LETTERS

Edited by **Jennifer Sills**

Scientists stand with Standing Rock

THE DAKOTA ACCESS Pipeline (DAPL) is a proposed 0.76-m-diameter pipeline spanning approximately 1850 km to transport crude oil (*1*). The Standing Rock Sioux Tribe of Fort Yates, North Dakota recently filed a lawsuit against the United States Army Corps of Engineers (*2*), who approved construction of DAPL segments in North Dakota. The Tribe argues that the environmental assessment conducted for DAPL (*1*) did not reflect important negative ecological, cultural, socioeconomic, and public health impacts on the Tribe and region (*2*). The DAPL project is just one of many haphazard approaches to natural resource extraction that overlook broader consequences of oil development (*3*). Such practices do not comply with recent Paris Agreement commitments to cut fossil fuel emissions by 2030 (*4*).

To date, more than 90 scientists have signed a resolution (*5*) in support of halting all construction of the DAPL until revised environmental and cultural assessments are carried out as requested by Standing Rock Sioux Tribe. In light of recent Paris Agreement commitments, the resolution calls for the U.S. Federal Government to give explicit consideration to how this and any other proposed national energy strategies affect public health, environmental justice, and biodiversity conservation.

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Supporters of the Standing Rock Sioux Tribe rally in opposition of the Dakota Access oil pipeline.

PHOTO: JACQUELYN MARTIN/ASSOCIATED PRESS

Build habitats, not fences, for caribou

IN HIS NEWS In Depth story "To save caribou, Alberta wants to fence them in" (22 July, p. 333), W. Cornwall reported on a proposed 50-year-long project to create a predator-free, fenced, 100-square-kilometer landscape to farm caribou in the Little Smoky range. The program intends to kill wolves, black bears, threatened grizzly bears, cougars, and all large prey such as moose, deer, and elk. Naïve farmed caribou calves will be released in areas where predators have been killed. Oil and gas and forestry activities will be allowed within the enclosure (*1*), and habitat loss and fragmentation will continue as usual.

Fencing wildlife is known to have substantial impacts on biodiversity (*2*), and removing large predators causes cascading ecological consequences (*3*). Releasing naïve caribou that are less sensitive to natural danger cues (*4*) will not address habitat loss and fragmentation, which are the ultimate reasons for the decline of the Little Smoky population (*5*). After the demonstrated failure of a highly unethical wolf-culling program from 2005 to 2012 (*6*), the creation of a predator-free enclosure may be the government's desperate last-ditch attempt to stimulate caribou recovery without jeopardizing industrial activities. The carrying capacity of the Little Smoky caribou range is very low (*7*), and culling wolves or creating artificial landscapes will not increase caribou numbers. The recovery of Little Smoky caribou depends on maintaining or increasing supplies of food and protective cover, which is best done by conserving high-quality priority zones that encompass and connect muskegs and pine-dominated habitats that are used by caribou (*6*). Breeding and raising naïve caribou should be done in zoos, not in the wild. Habitat conservation should be immediately implemented in the Little Smoky caribou range.

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Illegal wildlife trade: Look to the elephants

THE EXPANSION OF global illegal trafficking and its cooption by sophisticated criminal syndicates have accelerated the overharvesting of species (*1*). Although we lack understanding of the illegal trade of most species, we have gained insight into elephant ivory trafficking through a variety of monitoring approaches. Assessing the strengths and weaknesses of these strategies can help us both improve them and apply them to research on other species imperiled by trafficking.

Approaches to monitor ivory trafficking are diverse. The Monitoring of the Illegal Killing of Elephants (MIKE) program (*2*, *3*) provides the most current metrics of illegal harvest. Analysis of illegal ivory seizures can identify international trafficking routes and key trade ports (*4*). Genetic assignment of seized ivory identifies source populations and intra-continental trade routes (*5*). Isotopic sourcing provides parallel insight to genetic data and can age seized contraband (*6*). Surveys provide fundamental data on population status and trends (*7*, *8*).

In aggregate, these approaches provide comprehensive information on the ivory supply chain and scale of illegal harvest. Within range states, this has raised awareness, directed anti-poaching efforts, and led to diplomatic pressures to stop poaching. On the trafficking side, identification of key destination markets, namely China but also the United States, Vietnam, and Thailand (*4*, *9*), and transit ports have focused demand reduction campaigns and threats of sanction from the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Illegal trade in other species could greatly benefit from investment in similar data collection and collation efforts.

Strategies to control the crucial demand-side stimulants of ivory trafficking still need improvement. Focused demand reduction campaigns and domestic trade bans may serve to undermine the foundations driving illegal ivory trafficking. Overtures to end domestic trade in the primary ivory market of China, as recently implemented in the United States (*10*), have the potential to reduce avenues for laundering black market ivory, particularly if coupled with strict enforcement of border flows that stymy commerce of ivory from neighboring countries. Such actions should be supported and encouraged by the global community. The adoption of the International Union for Conservation of Nature (IUCN) resolution calling for the closure of domestic markets for elephant ivory sets a good precedent (*11*).

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ERRATA

Erratum for the Report "ESCRT III repairs nuclear envelope ruptures during cell migration to limit DNA damage and cell death" by M. Raab *et al.*, *Science* **353**, aah6167 (2016). Published online 29 July 2016; 10.1126/science.aah6167

Erratum for the Report "Enantioselective synthesis of an ophiobolin sesterterpene via a programmed radical cascade" by Z. G. Brill *et al.*, *Science* **353**, aah5232 (2016). Published online 29 July 2016; 10.1126/science.aah5232

Erratum for the Research Article "Asymmetric division of clonal muscle stem cells coordinates muscle regeneration in vivo" by D. B. Gurevich *et al.*, *Science* **353**, aah4673 (2016). Published online 8 July 2016; 10.1126/science.aah4673

Erratum for the Research Article "De novo design of protein homo-oligomers with modular hydrogen-bond network–mediated specificity" by S. E. Boyken *et al.*, *Science* **352**, aag1318 (2016). Published online 20 May 2016; 10.1126/science.aag1318