

Canada, Australia, and regions of South America, Eurasia, and Africa (4). Given that Earth's climate continues to warm and that historical land use and fire suppression activities have resulted in dense forests that provide fuel for fires, these accelerating trends are projected to continue into the foreseeable future (5).

The costs associated with fighting these large wildfires now account for more than half of the U.S. Forest Service annual budget. Even before the December wildfires, 2017 was the most expensive year on record, with costs for wildland fire suppression exceeding \$2 billion (6). However, the full economic costs of wildfire should also consider expenditures associated with preparedness, property losses, health care and loss of human life, tourism, and damage to the natural resource base. The true costs of the fires are likely 2 to 30 times as high as the reported suppression costs (7).

Counterintuitively, the threats and costs once fires are contained may be more disastrous than the fire itself. The secondary threats of wildfires to water supply are particularly concerning, as almost two-thirds of municipalities in North America receive their drinking water from forested areas (8). Key threats include increased potential for erosion, landslides, debris flows, floods, and introduction of contaminants to streams, with potentially catastrophic implications for community infrastructure, drinking water treatment, public health, and aquatic ecosystem health (9).

Given the rising threats and costs associated with the current wildfire trend, we must change the way we manage both wildfires and forested watersheds. For example, the use of prescribed fire or fostering of fires that burn more frequently and under less extreme conditions can improve forest resilience and reduce the magnitude and longevity of effects (10). These land-use activities, especially in forests near communities, have potential to substantially reduce impacts if they are strategically located (11). However, it is not economical or feasible to protect all forests through active forest management. As such, it is critical to continue to develop and use the tools we have to produce maps that identify locations and times (e.g., early warning systems) of high fire risk, which can guide our policy and management efforts. Such efforts should also integrate and focus on areas that are critical for provision of a freshwater supply, to protect water resources for healthy aquatic ecosystems and human populations downstream (12).

Kevin D. Bladon

Oregon State University, Corvallis, OR 97331, USA.
Email: bladonk@oregonstate.edu



Canada's iconic wilderness includes Bow Lake and Crowfoot Mountain in Banff National Park.

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Invest long term in Canada's wilderness

Increasing global demand for Canada's resources is eroding the country's iconic wilderness, intact ecosystems, and rich megafaunal diversity (1, 2). To meet its 2020 commitments to the United Nations Convention on Biological Diversity (CBD), Canada must protect 17% of its terrestrial area and 10% of its marine area (3); currently, only 10 and 1%, respectively, are protected (4). Polls suggest that 87% of Canadians support increased landscape protection (5). On 8 January, 116 Canadian politicians called for a historic \$1.4 billion in government funding to conserve Canada's exceptional wilderness and biodiversity between 2018 and 2020, with \$470 million per year to support efforts after 2020 (3). This investment is essential to enact the land and water protection Canadians want. We support this call to action.

However, even if Canada meets its CBD commitment to protect 17% of its terrestrial area, wildlife conservation will fail if Canada neglects the other 83%, which will remain unprotected. In western Canada,

35% of the provincially managed landscape has been affected by industrial activity (6). These effects are gradually compromising the persistence of many high-profile species, including the grizzly bear, caribou, elk, wolf, and mountain goat (6). The growing threats to Canada's functional ecosystems are not matched by increasing funds to manage and conserve wildlife and habitats. Funds provided to wildlife management agencies in western Canada pale in comparison to neighboring jurisdictions and are in decline (7). We strongly urge provincial governments to honor their promise to address this wide funding deficit (8) to ensure the effective management and conservation of Canada's species outside protected areas.

Canadian governments have a responsibility not only to their citizens, who overwhelmingly support conservation, but also to the world as stewards of 24% of the planet's remaining wilderness (2). Increased investment in both protected and unprotected areas is vital to safeguard Canada's immense wilderness and wildlife capital.

Clayton T. Lamb,^{1*} Marco Festa-Bianchet,² Mark S. Boyce¹

¹Department of Biological Sciences, University of Alberta, Edmonton, AB T6G 2E9, Canada. ²Université de Sherbrooke, Sherbrooke, QC J1K 2R1, Canada.

*Corresponding author. Email: ctclamb@ualberta.ca

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